

INSTRUCTION MANUAL FOR AUTOMATIC UNIT V702 POCKET HEMMING

INTRODUCTION

Thank you for purchasing this VI.BE.MAC. S.p.A. industrial sewing machine.

Before using this automatic unit, please read the following instructions in order to gain a better understanding of how the machine operates. The instructions illustrate the correct working method to follow in complete compliance with current legislation.



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“Suggestions to improve this manual are appreciated”

INDEX

1.	LIFTING AND TRANSPORT	5
2.	UNPACKING THE MACHINE	6
3.	GENERAL MACHINE SPECIFICATIONS	11
3.1-	Power supply.....	11
3.2-	Work station	11
3.3-	Control panel	11
4.	CONDITIONS FOR USE	12
4.1-	Guarante conditions	12
5.	ORDER OF OPERATIONS	13
5.1-	Threading path	14
6.	STARTING UP THE MACHINE	15
7.	STOPPING THE MACHINE	15
8.	MACHINE ROTATION DIRECTION	15
9.	SETTING SEWING SPEED-POSITIONING.....	15
10.	LIST OF ERRORS.....	16
11.	SETTING CHAIN STITCH CUTTING PARAMETERS.....	17
11.1-	To execute only 1 cut.....	18
12.	SETTING THE UNLOADER PARAMETERS.....	19
13.	SETTING LABEL APPLICATION PARAMETERS	20
14.	FINAL AUTOMATIC CYCLE END STOP	21
15.	SETTING PARAMETERS FOR CONTROLLING STEPPING MOTOR.....	22
15.1-	Setting output signals	22
15.2-	Setting trasport value parameters.....	22
16.	RESETTING THE PANEL VALUES	23
17.	INPUT/OUTPUT TEST.....	24
17.1-	Input test.....	25
17.2-	Output test.....	26
18.	PARAMETER LIST.....	27
19.	ADJUSTING THE SEWING HEAD	31
20.	FEEDING BELT MECHANICAL ADJUSTMENT.....	33
20.1-	Belt planarity adjustment	33
20.2-	Belt height adjustment	34
21.	CHANGING THE BELTS	35
21.1-	Changing the long belt.....	36
21.2-	Changing the small belt.....	37
22.	FOLDER ADJUSTMENT.....	39
23.	PHOTOCELL ADJUSTMENT.....	43
24.	CLEANING	44
25.	LUBRICATION	44
26.	ELECTRICAL DIAGRAM.....	46
27.	PNEUMATIC DIAGRAM.....	61



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Declaration of CE Conformity

Translated Version

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In quality of manufacturer, declares under its responsibility that the product:

COMPANY: VIBEMAC

MODEL: V702

SERIAL NUMBER: XXXXXXXX

MANUFACTURED IN YEAR: 2025

DESCRIPTION: Automatic pocket hemming unit.

The present declaration has been issued according to machinery directive 2006/42/CE dated 17 May 2006 and to the following directive:

- Electromagnetic Compatibility 2014/30/CE

As required, CE mark is applied on the machine

PLACE AND DATE

SAN GIOVANNI LUPATOTO, 04/07/2025

C.E.O.

Haitao Zheng



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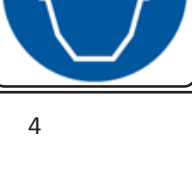


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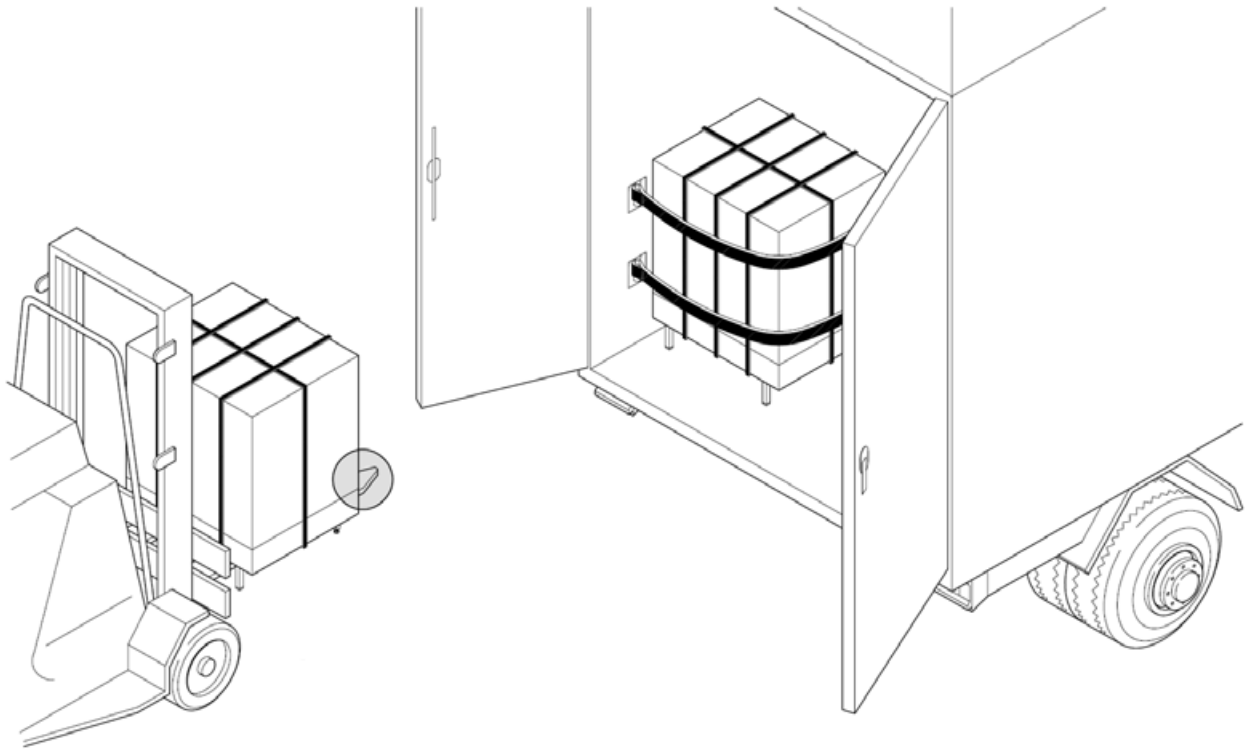


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SAFETY SIGNALS

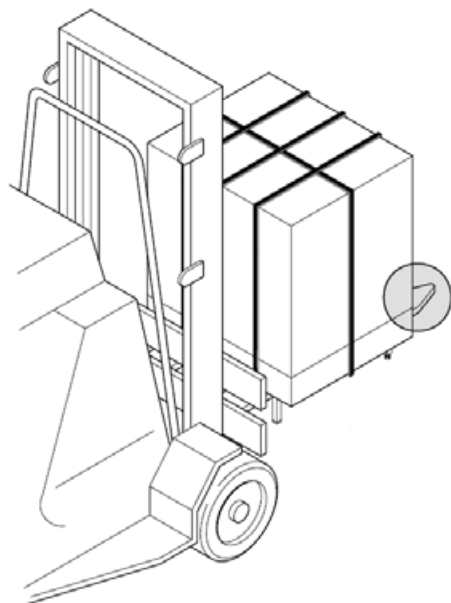
	ELECTRICAL SHOCK DANGER: BEFORE OPENING THE COVER OR DOING THE OPERATION SWITCH OFF THE MAIN POWER.
	MECHANISM MOOVING: BEFORE DOING THE OPERATION BE SURE THAT THE MACHINE IS STOPPED AND DISCONNECTED FROM MAIN SWITCH.
	DANGER: BE SURE TO FOLLOW THE ISTRUCTION.
	DANGER: THE TEMPERATURE WILL BE OVER 70C°-160F°.
	DON'T REMOVE SAFETY PROTECTIONS.
	DON'T LUBRIFICATE OR ADJUST WHILE MOVING.
	TURN OFF THE MAIN SWITCH BEFORE WORKING ON THE MACHINE.
	THE USE OF EAR PROTECTION IS MANDATORY.
	IT IS MANDATORY TO USE THE GOGGLES.

1. *LIFTING AND TRANSPORT*

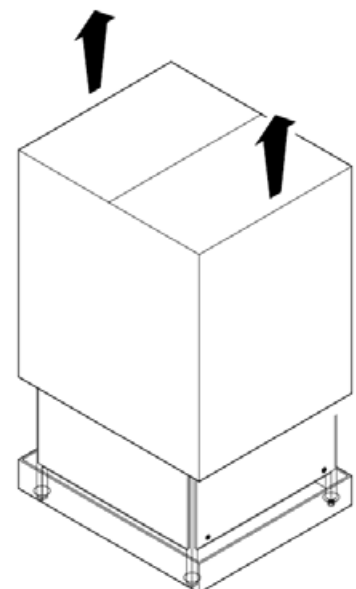


Make sure that during lifting the whole machine rests on the forklift forks.

Position the machine on the truck surly fixed with straps or balts that will insure the stability during the transport.



Make sure that during unloading the whole machine rests on the forklift forks. Place it on a hard flat surface repaired from weather.

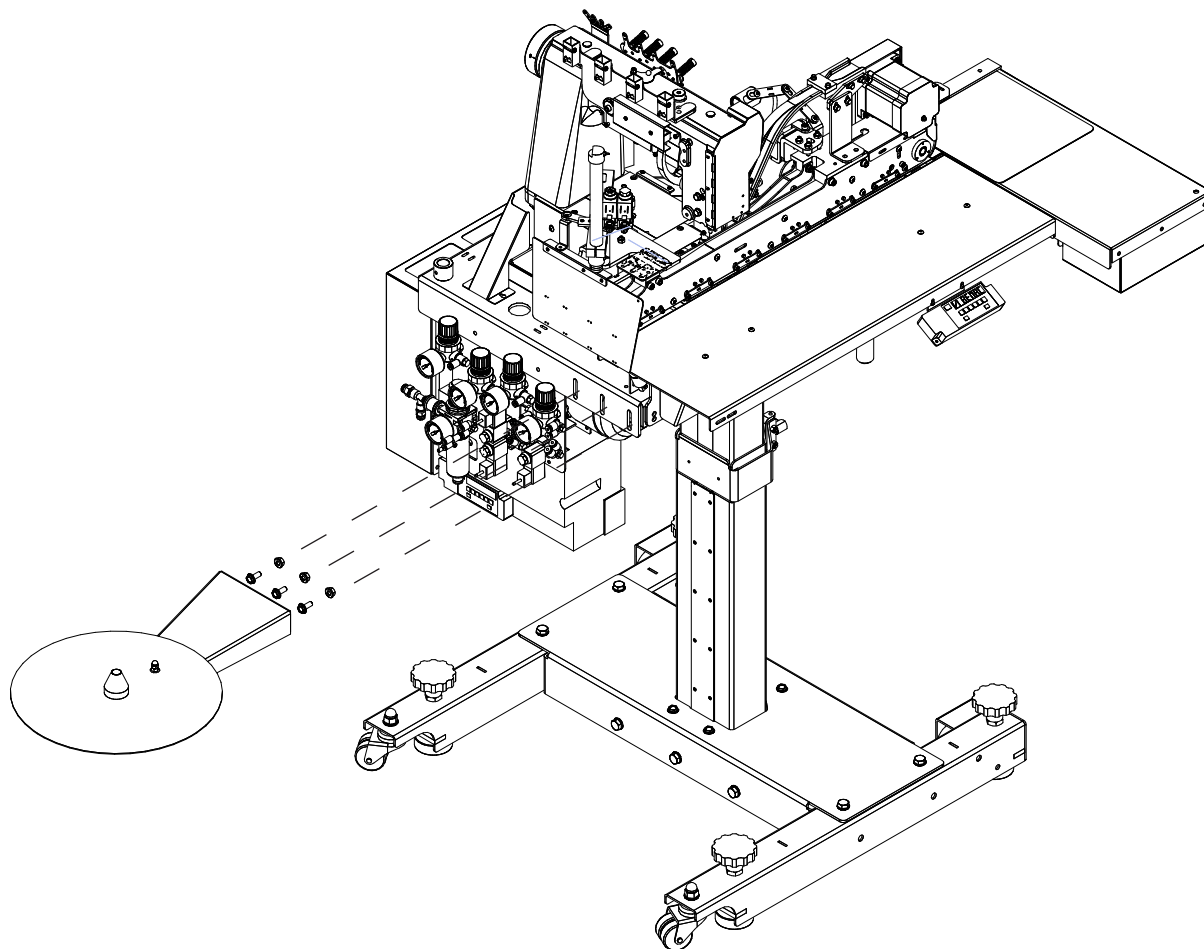


Remove straps, and loosen the fixing screws, remove the top part of the packing box by pulling it upwards.

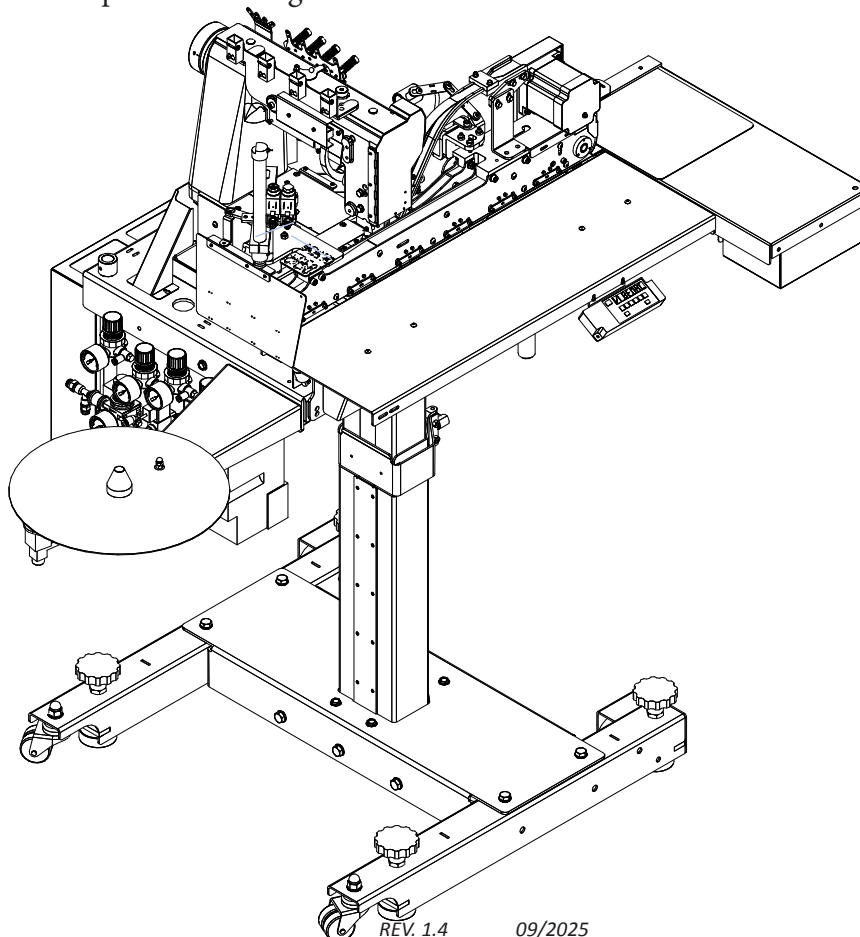
2. UNPACKING THE MACHINE



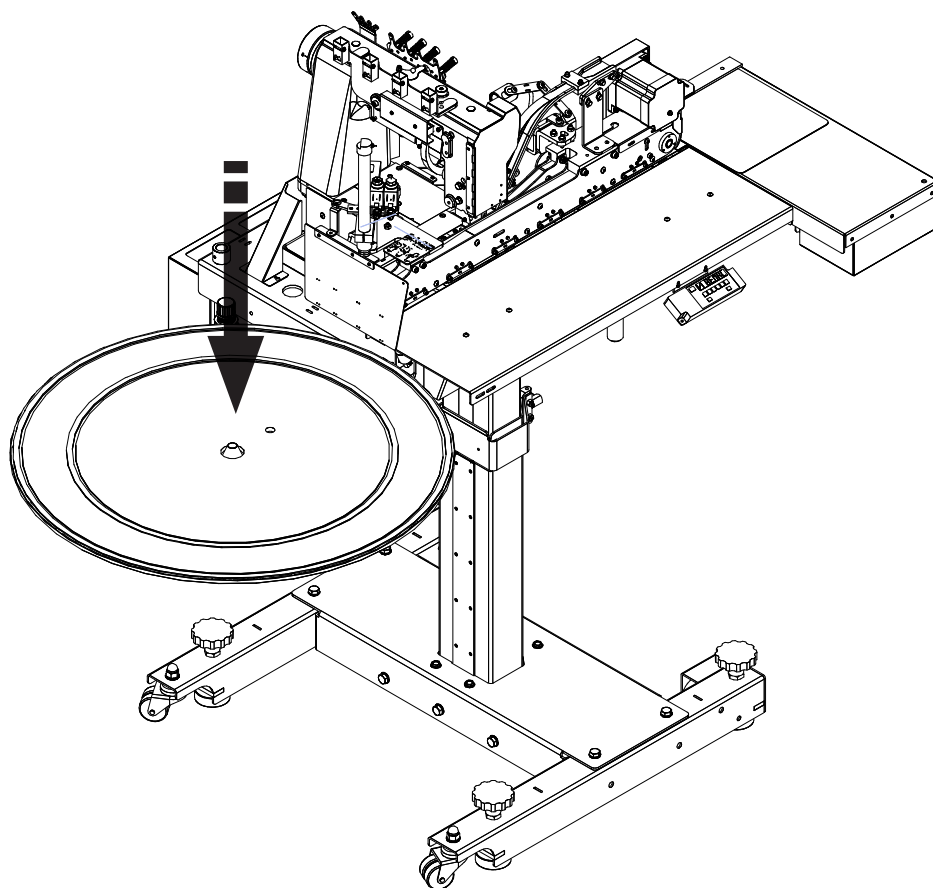
After unpacking the machine the first operation is to re apply the storage device.



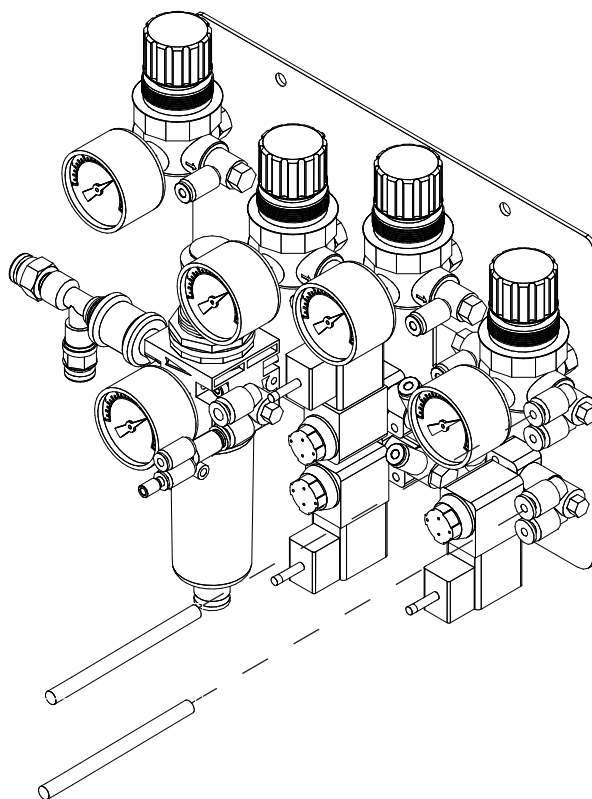
Set the storage device in position and tighten the 3 screws that fix it to the stand.



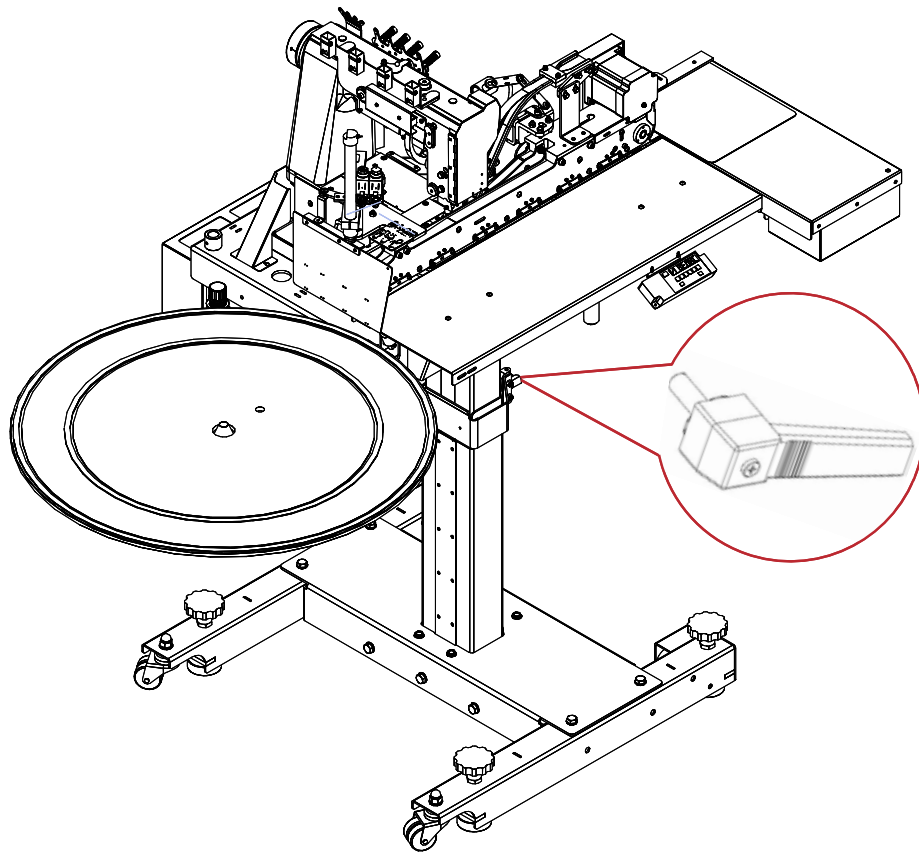
Place the storage plate.



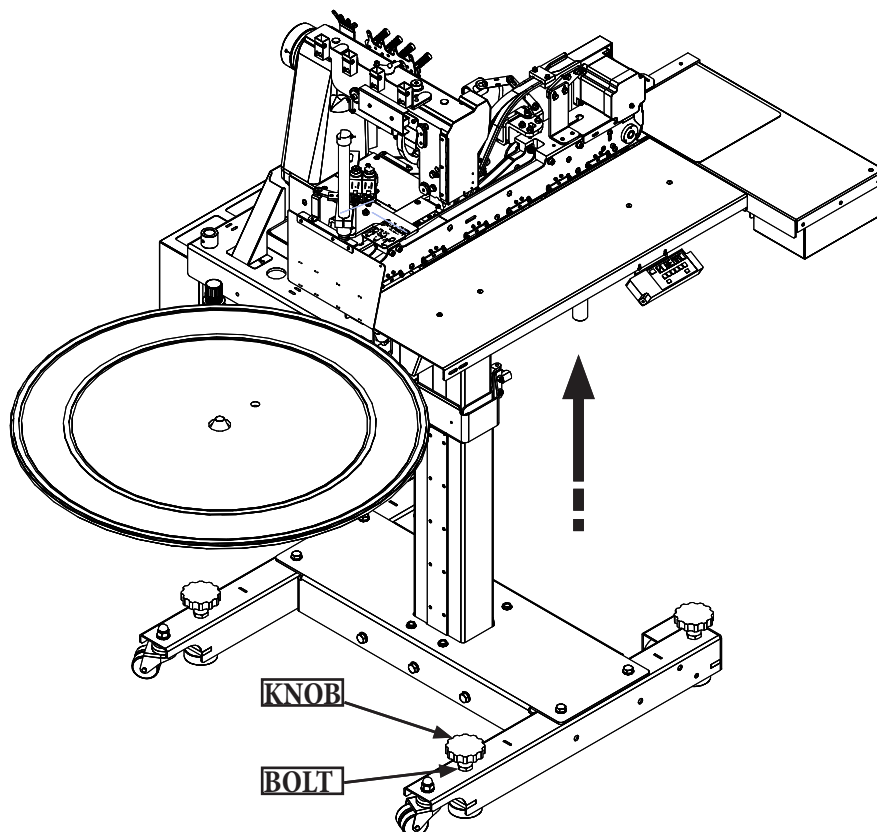
Connect the air pipes as shown in the image.



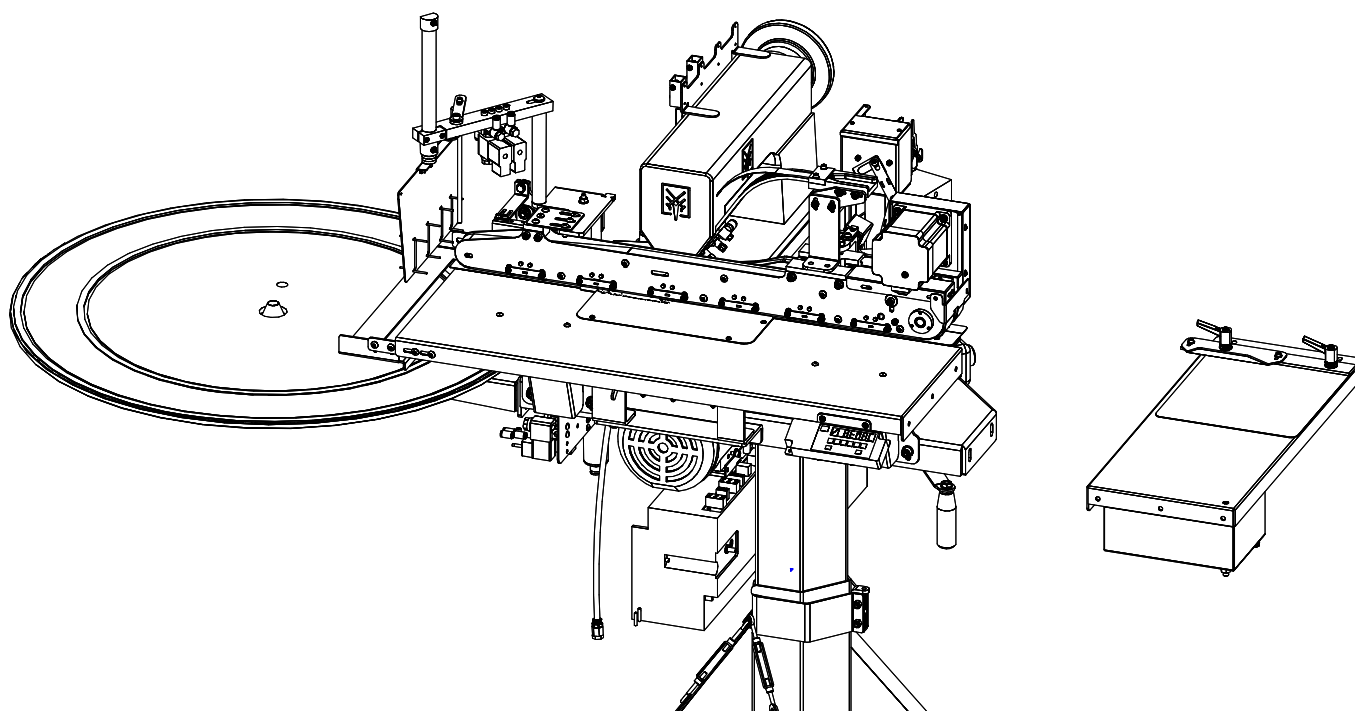
Loosen the tightening knob placed in the lower part of the stand.



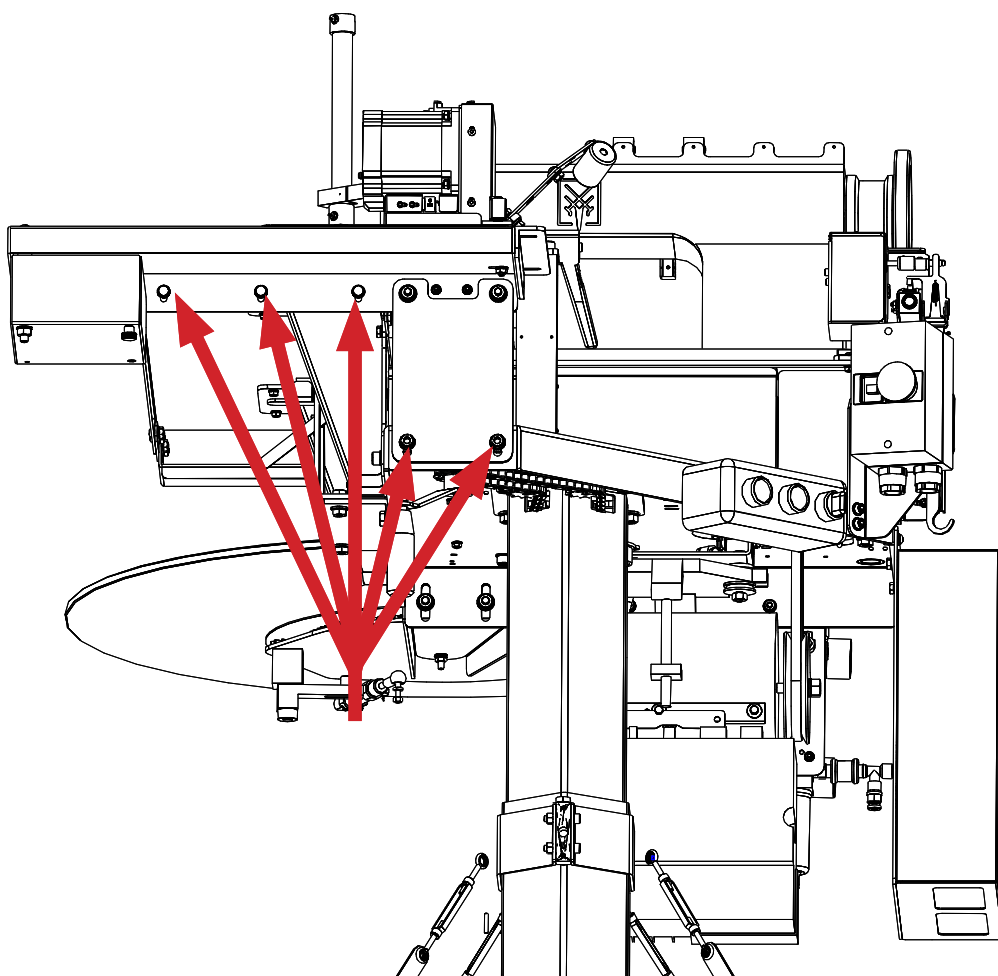
Then using the lifting handle ,rotate it until you reach the desired height.
After reaching the desired height tighten again the tightening knob.



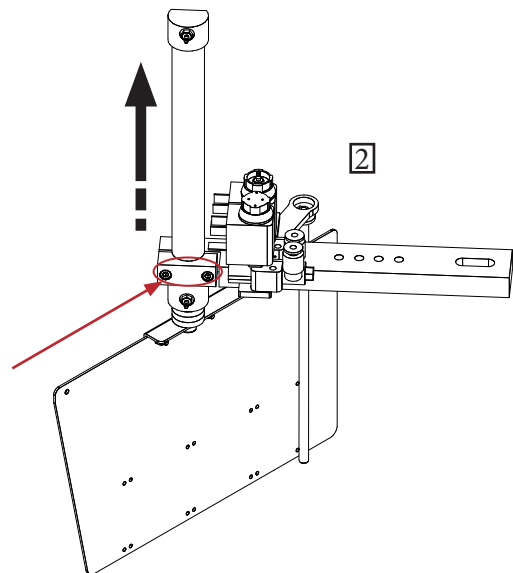
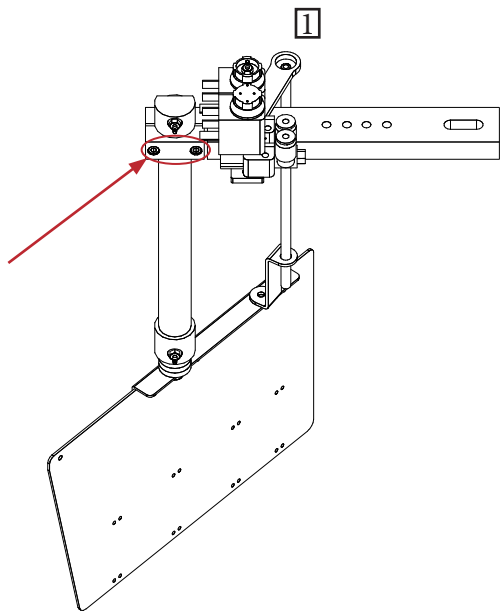
Position the loading surface.



Tighten the screws.



For last loosen the 2 screws (1) that fix the stacker cylinder and position the cylinder in highest (2)



3. **GENERAL MACHINE SPECIFICATIONS**

Automatic two or three-needle unit for hemming fabric.

3.1- **Power supply**

The unit operates on a power supply of 220 Volts single-phase, 50/60 Hertz. It consumes approx. 600 Watts.

3.2- **Work station**

The operator STANDS in front of the unit's work surface with:

- the BLACK button for starting up the machine on his/her right, fixed to the support.

The work surface includes:

- the RED emergency button for stopping the unit
- the unit control panel in order to control the various operating data
- the two-position switch in order to select the pocket length and consequently which photocell to use for correct material unloading.

There are 6 thread breakage sensors on the cotton reel holder above the sewing head, which stop the sewing cycle if any of the threads break. It is only necessary to use the thread breakage sensors that are effectively in contact with the thread.

If the unit stops because of thread breakage, always press the emergency button before rethreading.

3.3- **Control panel**

The following appears on the control panel display:

□ 2 – 9 9

The control panel features numerous different functions, listed below:

Setting all the unit parameters (sewing speed, delay, automatic cycle stop) or modifying internal programming data.

It enables automatic unit start if the cycle stops before the effective completion of the pocket hem, through button P.

If the unit malfunctions, consult the following instructions in order to find a solution or request the intervention of qualified personnel in order to inspect the unit.

The machine is ready to start when the first symbol in the panel is rotating.

If the first symbol does not rotate, one of the thread breakage sensors has been set off.

4. CONDITIONS FOR USE

All operations that comply with the following conditions are considered “normal”:

- the user applies all instructions in this manual and CE directives
- all safety standards are respected, not removing the casing or safety catches installed by the manufacturer
- the power supply is constant and does not fluctuate by more than 10%
- the unit has to be connected under an automatic cut-out switch of 30mA
- the machine is connected to an earthing system in order to prevent disturbances or electric shocks
- the machine is connected to an electric circuit with separate NEUTRAL and EARTH wires
- the machine is not used at high temperatures (over 40°C) or low temperatures (below 10°C)
- water or other fluids are not permitted to enter the motor
- water or other fluids are not permitted to come into contact with the control card, the solenoid valves and the cylinders
- the machine is not used in the presence of explosive gases, dust or oil fumes
- the machine is not connected to a compressed air system containing water or other fluids in the pressurized circuit
- the machine is connected to a compressed air system with minimum constant internal pressure of 5.5 bar
- the machine is installed in a factory not over 1000 mt from sea level
- the machine is installed on a flat service with no inclination
- only qualified personnel are permitted to commission the machine and carry out extraordinary maintenance work

The manufacturer declines all responsibility for damage caused to people or things by the machine if:

- the machine was not commissioned by qualified personnel
- any repairs to the machine were not made by qualified personnel
- the power supply is not constant or does not correspond to requirements
- the machine is not earthed, or there are electronic problems in the electrical system
- the motor has not been subjected to the scheduled maintenance operations
- original or model-specific spare parts have not been used
- the user demonstrates total or partial failure to observe the instructions
- rain or snow get in contact with the unit

It is absolutely prohibited to:

- remove the casing and safety devices from their positions, thereby posing a risk to the user
- remove the eye protection mirror without equipping the user with special eye protection glasses in compliance with the law
- deactivate the safety catches installed by the manufacturer, thereby posing a risk to the user
- make changes to the machine without authorization from the manufacturer, thereby posing a risk to the user
- exceptional circumstances

4.1- *Guarante conditions*

All unit components have a 1 (ONE) year guarantee and should be send to the manufacturer for inspection if found to be defective.

All pieces damaged due to negligence of the end user and/or incorrect adjustments to the unit, carried out by unqualified personnel, will NOT be recognized as defective and will not be covered by the guarantee. These will be charged at the normal price, including consequent delivery and/or installation costs.

5. ORDER OF OPERATIONS



A description of the V702 automatic unit order of operations follows below.

It is very important for this description to be carefully read and fully understood, since the trouble-shooting guide is based on a thorough knowledge of the order of operations.

The first step involves checking the air pressure in the machine circuit, which should be permanently at 5.0 BAR (70 PSI). The pressure should be regulated using the reduction unit on the right, under the stacking surface fixed to the support, where it is indicated on the manometer.

Flicking the switch from “SMALL–NORMAL” determines which of the two photocells at the end of the conveyor belt will be used to unload the material. NORMAL is used for sewing and unloading pockets of over 13 cm long and SMALL is used for sewing and unloading pockets of under 13 cm long.

Make sure that only the thread breakage sensors effectively in contact with the thread being used are switched on.

Push the black button on the machine base in order to start the unit.

The rotating motor symbol on the control panel starts to rotate when the unit is ready for use.

Place the pocket to be hemmed against the catch near the control panel and insert it very carefully under the conveyor belt. Keep the pocket in contact with the rebate during the material's movement under the conveyor belt.

The LOADING photocell located at the start of the feeding system (photocell 1 entrance IB) detects the presence of the pocket and commands the loading cycle to start immediately.

The pocket moves and when the photocell (photocell 1 entrance IA) detects the end of the pocket, after the number of stitches set by the PSU parameter in P mode, it commands the sewing cycle to come to an immediate stop.

While the unit is performing the sewing cycle, place a new pocket to be hemmed against the catch, wait for the unit to stop automatically and then insert it under the conveyor belt.

Keep the pocket in contact with the rebate during the material's movement under the conveyor belt.

WARNING: Inserting the next pocket before the unit has come to a stop could prevent the chain stitch cutter from operating correctly, since there is not enough space for the double cut.

Moreover, the sewing cycle could come to a halt if the operator causes a false start with the material, making the photocell detect it twice in a row.

If the motor rotation symbol is still when the unit stops, this means that one of the thread breakage sensors has been set off.

Switch off and stop the unit by pressing the emergency button.

Check the upper and lower threads in the sewing head in order to find the one that set off the alarm.

Rethread the unit and press the black button on the machine base in order to start the unit.

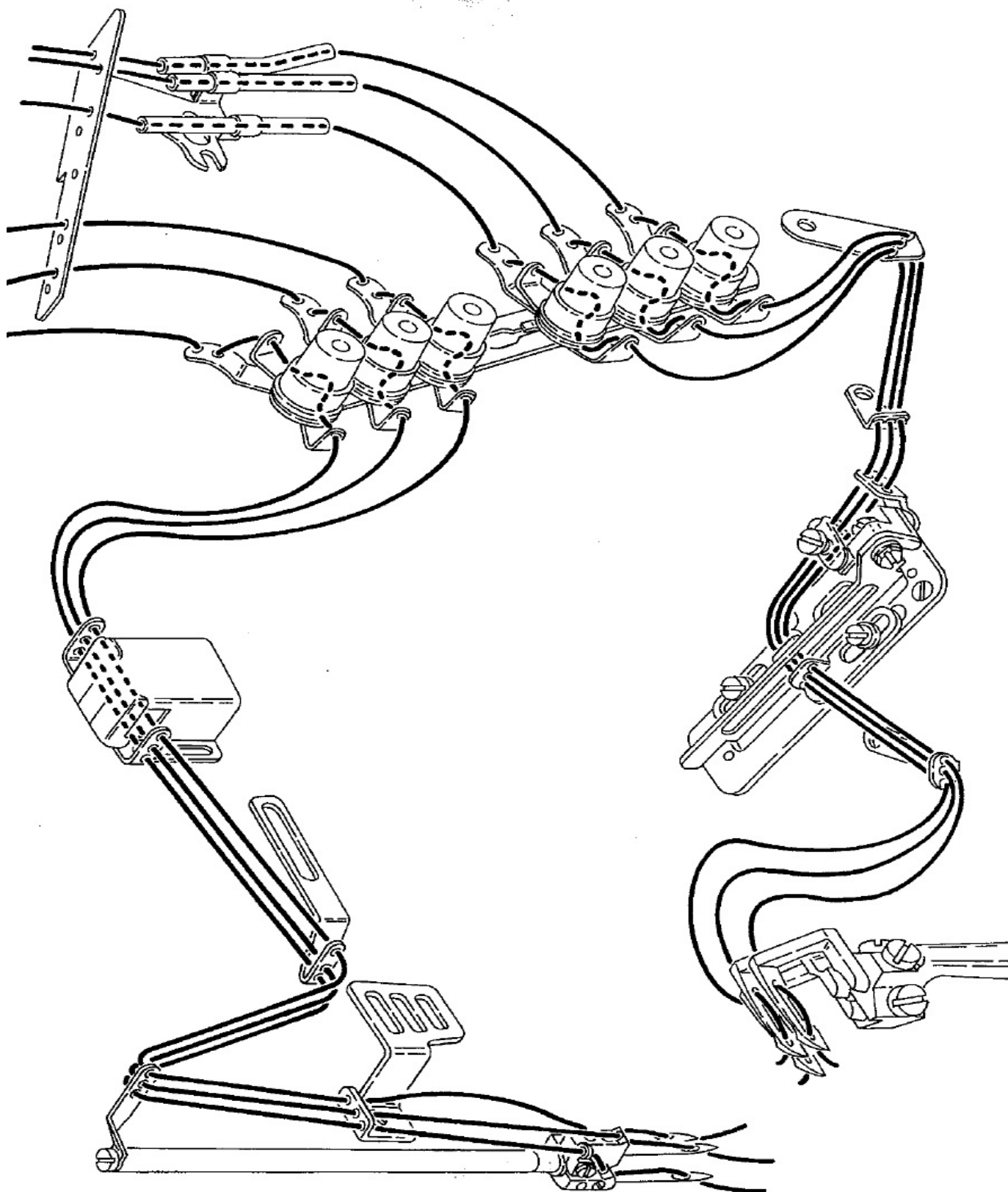
When the pocket reaches the sewing head, the sewing cycle comes into operation in order to fasten the upper edge which has been folded over twice by a special folding device. The pocket hem forming sequence is now complete.

As the operator loads the pockets under the conveyor belt, they progress to the sewing stage and are then detected by the CUT photocell located at the start of the chain stitch cutting system (photocell 2 entrance 1). At the START of the pocket the photocell commands the COB counter cycle to start immediately. When the set value has been reached, the knife is activated and the suction system stops.

At the END of the pocket, the photocell commands the suction system and COA counter cycle to start immediately. When the set value has been reached, the knife is activated.

As the operator loads the pockets under the conveyor belt, they progress to the sewing stage, then the chain stitch is cut and finally they are detected by the UNLOADER photocell located at the start of the unloading system (photocell 3 entrance 12).

5.1- Threading path



6. **STARTING UP THE MACHINE**

Open the air tap by moving it to the right.

Release the “EMERGENCY” button.

Power the machine by pressing the black button, located on the front of the unit support.

7. **STOPPING THE MACHINE**

Follow the procedure below:

ALWAYS press the “EMERGENCY” button in order to stop the automatic unit.

Close the air tap by positioning it in the central “OFF” position.

8. **MACHINE ROTATION DIRECTION**

The sewing head rotation direction is automatic.

9. **SETTING SEWING SPEED-POSITIONING**

The following appears on the control panel display:

□ 2 - 9 9

Press the up  and down  arrows at the same time.

The following will then appear on the display:

P - P (P mode)

Keep the two buttons pressed down until this changes to:

H. - - - - = Max. speed setting

Use button D to change the units.

Use button C to change the decimals.

Use button B to change the hundreds.

Use button A to change the thousands.

Adjust on the basis of the machine type – normally 3600 rpm.

Press the up and down arrows at the same time in order to exit this mode.

10. LIST OF ERRORS

- E 1 Check whether the motor power connector is correctly inserted.
- E 2 Check the voltage (overvoltage).
- E 3 Check whether the synchronizer connector is correctly inserted in the panel – Make sure that the machine is not jammed – Check whether the encoder connector is correctly inserted in the panel.
- E 4 Check whether the 4-pin connector is inserted in the motor and check if thread breaking.
- E 6 Problem with INPUT signals (noise). Make sure that there is no interference in the software input signals.
- E 8 Make sure the machine is not jammed – check whether the synchronizer is connected.
- E 9 Make sure that none of the solenoid valves have short-circuited.

11. SETTING CHAIN STITCH CUTTING PARAMETERS

The following appears on the control panel display:

□ 2 - 9 9

Press the up  and down  arrows and button B at the same time.

 +  + B

The following will then appear on the display:

P - F (F mode)

Keep the two buttons pressed down until this changes to:

C o A. x x Setting number of stitches in the Final Cut Counter (standard value 22). Increasing the value makes the cut longer.

Use buttons C and D to enter the desired number of stitches, from when the material start is detected by the photocell. Press the down arrow when the following appears on the display:

C o B. x x Setting chain stitch suction time (standard value 20).

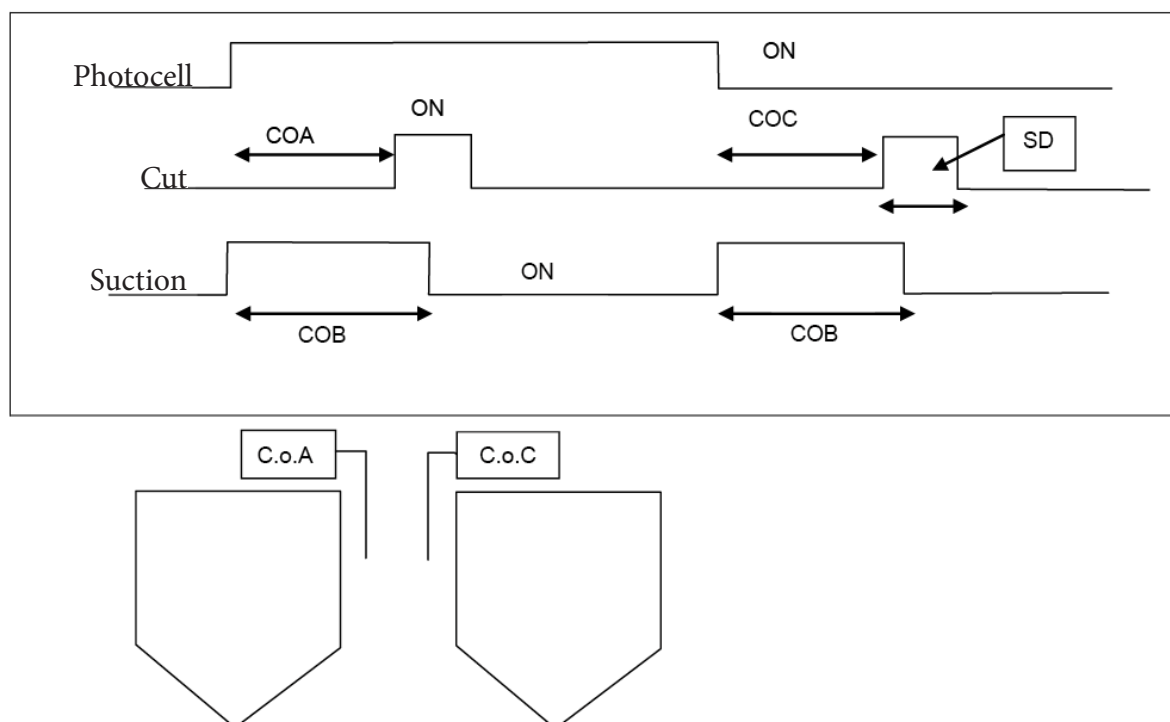
Press the down arrow when the following appears on the display:

C o C. x x Setting number of stitches in the Initial Cut Counter (standard value 18). Increasing the value makes the cut shorter.

Use buttons C and D to enter the desired number of stitches, from when the material end is detected by the photocell. Press the down arrow when the following appears on the display:

S d. x x Setting Cut Impulse duration (standard value 20).

Use buttons C and D to enter the desired value.



11.1- To execute only 1 cut

Keep pressed the down  arrow until the following parameter appears on the display:

CTM. ON = 2 Cut CoA and CoC.

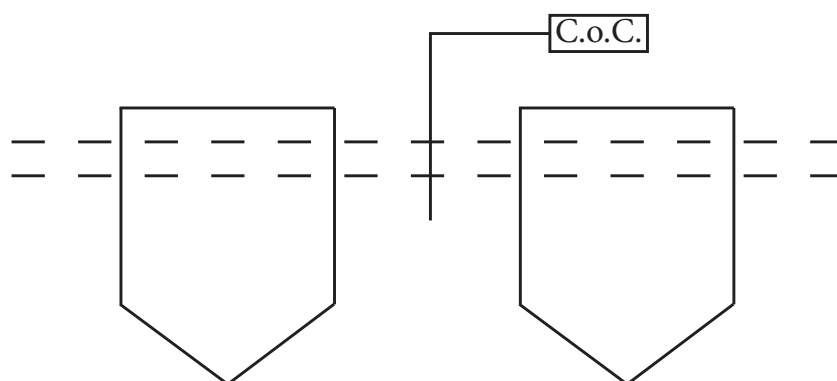
If using the D key you set

CTM. OF = 1 Cut only CoC is active (CoA is OFF)

At this point the position of the cut will be controlled only by parameter.

COC. XX

Use C or D key to increase or decrease the value to obtain the cutting in the desired position.



Press the up and down arrows at the same time in order to exit this mode.

12. SETTING THE UNLOADER PARAMETERS

The following appears on the control panel display:

□ 2 - 9 9

Press the down arrow  button B and button D at the same time.

 + B + D

The following will then appear on the display:

P - S (S mode)

Keep the two buttons pressed down until this changes to:

K s m. o f (S mode)

Press the down arrow until the following appears on the display:

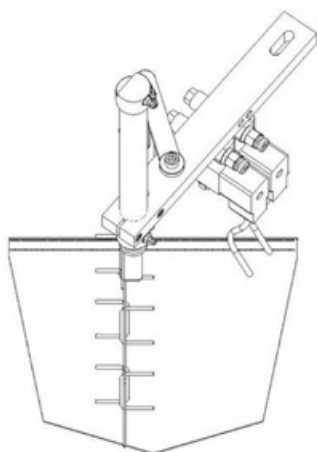
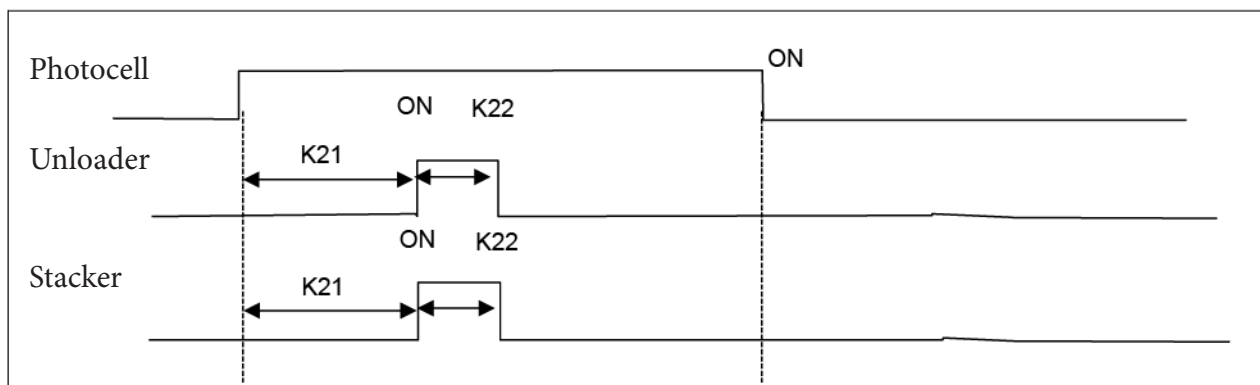
K 2 1. x x Setting number of stitches for Stacker start . Standard value 18

Use buttons C and D to enter the desired number of stitches, from when the material end is detected by the photocell. Press the down arrow when the following appears on the display:

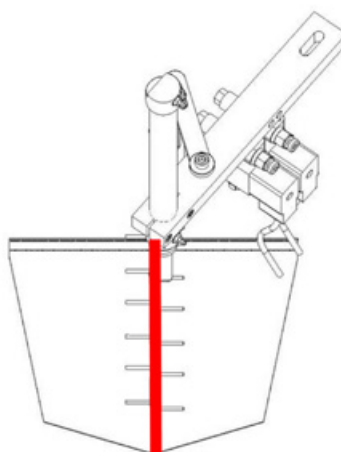
K 2 2. x x K22 output signal impulse duration = Stacker . standard value 26

Use buttons C and D to enter the Unloader solenoid value signal value (m/s).

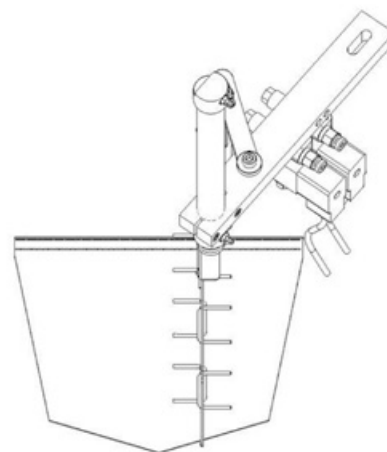
Press the up and down arrows at the same time in order to exit this mode



X



O



X

13. SETTING LABEL APPLICATION PARAMETERS

The following appears on the control panel display:

□ 2 - 9 9

Press the down arrow  button B and button D at the same time.

 + B + D

The following will then appear on the display:

P - S (S mode)

Keep the two buttons pressed down until this changes to:

K s m. o f (S mode)

Press the down arrow until the following appears on the display:

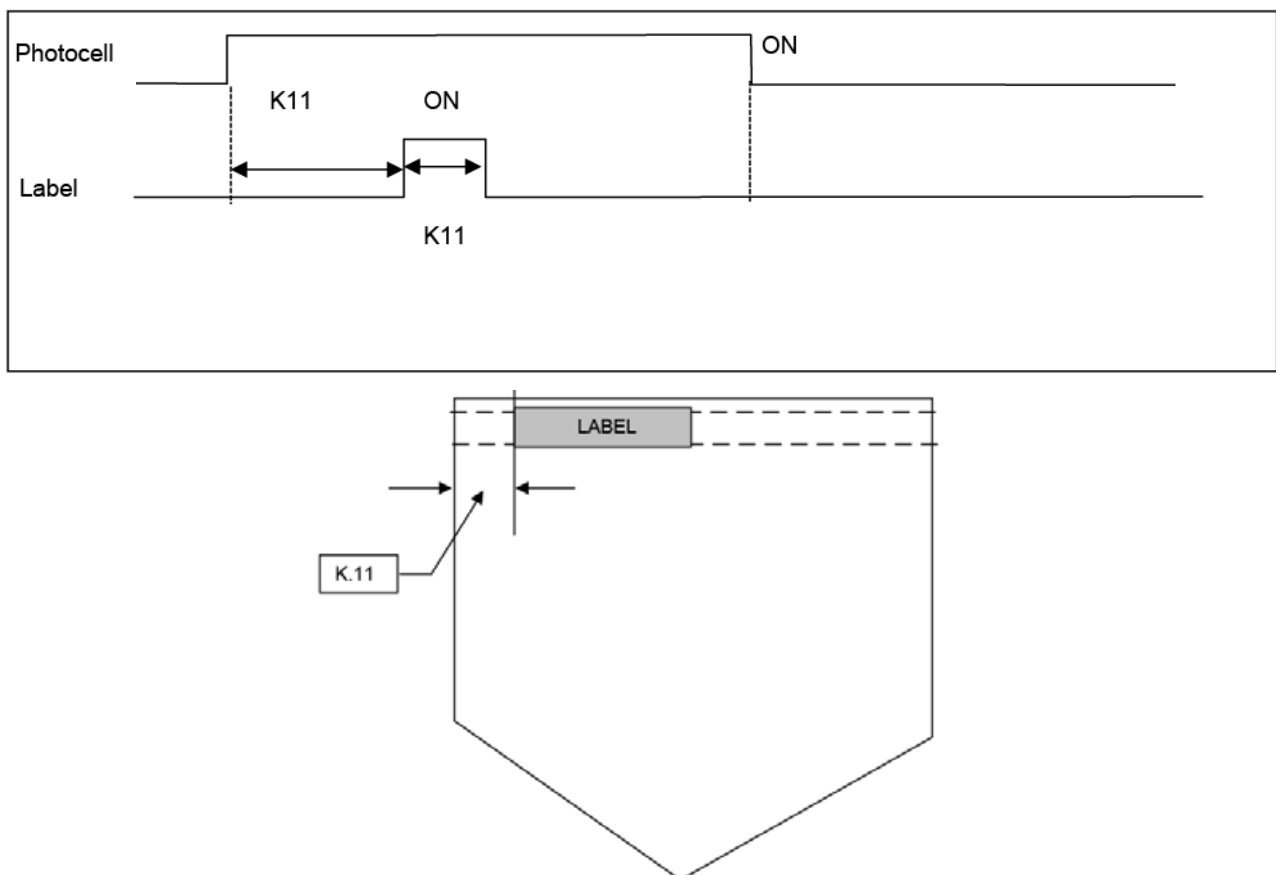
K 1 1. x x Setting number of stitches for LABEL start. (standard value 7)

Use buttons C and D to enter the desired number of stitches, from when the material START is detected by the photocell.

Press the down arrow when the following appears on the display:

K 1 2. x x KS1 output signal impulse duration = LABEL (standard value 17)

Press the up and down arrows at the same time in order to exit this mode



14. *FINAL AUTOMATIC CYCLE END STOP*



The following appears on the control panel display:

□ 2 - 9 9

Press the down arrow  and button A at the same time.

 + A

The following will then appear on the display:

P - A (A mode)

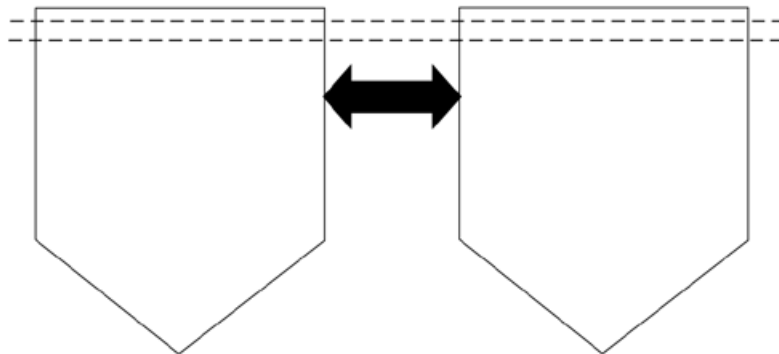
Press the down arrow until the following appears on the display:

D C T. - Deceleration time for machine stop (standard value 50 ms.)

Use button D to change the units. Use button C to change the decimals.

This value is generally set at 50 ms.

Press the up and down arrows at the same time in order to exit this mode.



15. SETTING PARAMETERS FOR CONTROLLING STEPPING MOTOR

15.1- Setting output signals

The following appears on the control panel display:

□ 2 - 9 9

Press the down arrow  and button C at the same time.

 + C

Keep the two buttons pressed down until this changes to:

I A. i r 2

Press up arrow until the following appears on the display:

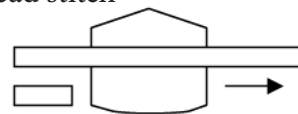
C P. x x Setting number of impulses in a rotation.
(Standard Value 62)

Use buttons C and D to enter the desired number of impulses, from when the material end is detected by the photocell.

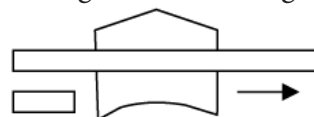
IMPORTANT: Every time change the number of impulses, SWITCH THE MACHINE OFF, wait for the console display to switch off and then switch the unit back on again.

Press the up and down arrows at the same time in order to exit this mode.

NOTE: The number of impulses can be regulated as follows: pocket material that is undulated after exiting the foot. Increase the number of motor impulses or slightly reduce the length of the sewing head stitch



Pocket material that is undulated near the belt unit after the foot. Reduce the number of motor impulses or slightly increase the length of the sewing head stitch



15.2- Setting trasport value parameters

The following appears on the control panel display:

□ 2 - 9 9

Press the up  and down  arrows and button C at the same time.

The following will then appear on the display:

P - G (G mode)

Keep the two buttons pressed down until this changes to:

t r. x x x Type of thread cutter parameters setting

Press the down arrow when the following appears on the display:

t s. x x x Machine rotation degrees value for END stepping motor movement
(standard value 120)

Press the down arrow when the following appears on the display:

t e. x x x Machine rotation degrees value for START stepping motor movement
(standard value 230)

Press the up and down arrows at the same time in order to exit this mode.



16. *RESETTING THE PANEL VALUES*

The following appears on the control panel display:

□ 2 - 9 9

Press the down arrow  and button B and C at the same time.

 + B + C

The following will then appear on the display:

P - r (r mode)

Keep the THREE buttons pressed down until this changes to:

RESET

Press button D in order to start the resetting cycle and keep it pressed down until the writing flashes three times.

The following appears on the control panel display:

□ 2 - 9 9



17. INPUT/OUTPUT TEST

The following appears on the control panel display:

□ 2 - 9 9

Press the up  and down  arrows and button A at the same time.
The following will then appear on the display:

P - E (E mode)

Keep the two buttons pressed down until this changes to:

1. E - -

The machine's last error message will appear on the display.

Press the down arrow.

The following will then appear on the display:

2. E - -

The machine's penultimate error message will appear on the display.

Press the down arrow.

The following will then appear on the display:

3. E - -

The machine's third from last error message will appear on the display.

Press the down arrow.

The following will then appear on the display:

4. E - -

The machine's fourth from last error message will appear on the display.

Press the down arrow.

The following will then appear on the display:

P. - - - - Effective motor ON time in hours
This value should be multiplied by ten (Total hours = n x 10)

Press the down arrow.

The following will then appear on the display:

M. - - - - Effective motor rotation time in hours
This value should be multiplied by ten (Total hours = n x 10)

Press the down arrow

17.1- Input test



With the possibility to test them manually (BY RUNNING YOUR FINGER UNDER THE PHOTOCELLS)
The following will then appear on the display:

i A. o F A input parameter = OFF

The INPUT value (ON/OFF) of parameter 1 is displayed.

By changing the relative input logic state (pedal-switch-sensor-photocell) the value changes from off to on.

The normal factory-set parameters are as follows:

FUNCTION	INPUT	DISPLAY
Photocell Start /Stop signal	from input	IB
Thread breakage sensors signal	from input	ID
Chain cutting signal	from input	IA
Photocell normal and small signal	from input	I4
Label application signal	from input	I2

Press the down arrow in order to proceed to a review of the desired parameters.

The following appears on the display at the end of the list:

i 7. o F 7 input parameter = OFF

The INPUT value (ON/OFF) of parameter 7 is displayed.

Press the down arrow. The following will then appear on the display:

E C A. x x Encoder motor phase A input parameter.

The INPUT value (ON/OFF) of parameter E C A is displayed.

When the machine is sewing, the value constantly changes between ON and OFF.

Press the down arrow. The following will then appear on the display:

E C B. x x Encoder motor phase B input parameter.

The INPUT value (ON/OFF) of parameter E C B is displayed.

When the machine is sewing, the value constantly changes between ON and OFF.

Press the down arrow. The following will then appear on the display:

U P. o n HIGH thread-puller position sensor reading input parameter.
NB: as the feed unit is with the needle tip, UP must be ON when the needle bar is at the lower dead point.

The INPUT value (ON/OFF) of parameter UP is displayed.

Turning the machine synchronizer makes it possible to change it from on to off and vice versa.

Press the down arrow. The following will then appear on the display:

d n. o f LOW thread-puller position sensor reading input parameter.
NB: as the feed unit is with the needle tip, DN must be ON when the needle bar is at the upper dead point.

The INPUT value (ON/OFF) of parameter DN is displayed.

Turning the machine synchronizer makes it possible to change it from on to off and vice versa.

Press the down arrow. The following will then appear on the display:

d r. o f LOW needle reading current position angle.

The INPUT value (ON/OFF) of parameter DR is displayed.

Turning the machine synchronizer makes it possible to change it.

17.2- Output test



While the machine is running, it is possible to see the function and the signal changing from OFF to ON and vice versa.

The following will then appear on the display:

o A d. o F output signal 0 A = THREAD PULLER OFF

The OUTPUT signal value of the 0 A d parameter is displayed.

The normal factory-set parameters are as follows:

FUNCTION	DISPLAY
Storage device signal	oAd
Label application signal	oBd
Unloader pallet signal	o1d
Chain stitch cut signal	o2d
Chain stitch suction and start signal	oCd

Press the down arrow in order to proceed to a review of the desired parameters.

WARNING: outputs 04, 05, 06 and 07 are not solenoid valve output signals. These signals are also on dual function.

INPUT – OUTPUT ports. Press the down arrow.

Display of all the OUTPUTS (TEST OUTS) with the possibility to test them manually by pressing button D on the console.

The following will then appear on the display:

o A o. o F output signal 0 A = THREAD PULLER OFF

The OUTPUT signal value of the 0 A d parameter is displayed.

Press button D in order to change the value from OFF to ON.

The normal factory-set parameters are as follows:

FUNCTION	DISPLAY
Storage device signal	oAo
Label application signal	oBo
Unloader Stacker signal	o1o
Chain stitch cutting signal	o2o
Chain stitch suction signal	oCo

Press the down arrow in order to proceed to a review of the desired parameters.

WARNING: outputs 04, 05, 06 and 07 are not solenoid valve output signals. These signals are also on dual function INPUT – OUTPUT ports.

Press the down arrow. The following will then appear on the display:

W. x x Version of the motor in use (xx = 55 motor – 550 watts xx = 75 motor – 750 watts)

Press the down arrow. The following will then appear on the display:

V L. x x Set input voltage (x = 100 in reference to 100 volts, x = 200 in reference to 200 volts)

Press the down arrow. The following will then appear on the display:

t p. x x Type of junction box in use (N = XC – EN, MFY = XC = EMFY)

Press the down arrow. The following will then appear on the display:

D V. x x System EEPROM version in use in the main memory.

Press the down arrow. The following will then appear on the display:

R V. x x System SOFTWARE version in use in the main memory.

18. PARAMETER LIST

Function number	Mode	Digital	Function Name	V702
	NORMAL	CW.	Rotation direction	R
0000	P	H.	Maximum speed	4199
0002	P	T.	Thread trimming speed	199
0003	P	N.	Start tacking speed	1800
0006	P	S.	Slow start speed	1800
0007	P	SLN.	N° of slow start stitches	1
0010	P	SH.	One shot	ON
001	P	SHM.	One shot operation mode	RH
0018	P	PSN.	Restart after PSD,SEN input PSN	ON
0021	P	FUM.	Presser foot lift momentary	ON
0024	P	FD.	Time to motor drive after presser foot lifter bring down	50
0027	P	FUD.	Presser foot lifting output chopping duty	FL
0029	P	FL.	Cancel the presser foot lifting with full heeling	ON
0030	P	S3L.	Cancel presser foot lifting with light heeling	ON
0033	P	AT.	Automatic operation	ON
0040	P	S2R.	Full heeling, S2 signal operation mode	OF
0041	P	IL.	Cancel of interlock after full pedal heeling	ON
0042	P	TR.	No. of stitches setting for auxiliary feeding rear roller	PRG
0047	P	K8.	Reverse run angle from DOWN position to UP position	100
0054	P	D8.	Needle DOWN position stop angle	48
0102	A	AC.	Acceleration time simple setting	-
0103	A	ACT.	Acceleration time	6
0104	A	DC.	Deceleration time simple setting	-
0105	A	DCT.	Deceleration time	50
0107	A	SCT.	S-character cushion time setting	0
0110	A	MR.	Setting motor pulley diameter	85
0111	A	SR.	Setting sewing machine pulley diameter	60
0201	B	N.	Down counter setting count amount	1500
0203	B	P.	Up counter setting count amount	0
0210	B	CDN.	Down counter the selection of setting mode	ST
0217	B	CNU.	Setting Number of stitches "N"	10
0300	C	IA.	Function selection of input signal IA	IR2
0301	C	IAL.	Logical conversion function of input signal IA	ON
0303	C	IB.	Function selection of input signal IB	IO4
0306	C	IC.	Function selection of input signal IC	NO
0309	C	ID.	Function selection of input signal ID	THI
0312	C	IE.	Function selection of input signal IE	ES
0313	C	IEL.	Logical conversion function of input signal IE	ON
0315	C	IF.	Function selection of input signal IF	NO

Function number	Mode	Digital	Function Name	V702
0348	C	IP.	Function selection of input signal IP	NO
0357	C	I1.	Function selection of input signal I1	PSU
0362	C	I1C.	AL operation clearness of input signal I1	ON
0369	C	R1N.	RS F/F reset stitch amount for I1	99
0370	C	I2.	Function selection of input signal I2	I06
0378	C	I4.	Function selection of input signal I4	I07
0379	C	I4L.	Logical conversion function of input signal I2	ON
0381	C	I5.	Function selection of input signal I5	CCD
0390	C	OA.	Function selection of output signal OA	KS2
0395	C	OB.	Function selection of output signal OB	KS1
0400	C	OC.	Function selection of output signal OC	OTE
0410	C	OF.	Function selection of output signal OF	NO
0411	C	OFL.	Logical conversion function of output signal OF	ON
0412	C	FUD.	Presser foot lifter output chopping duty	FL
0416	C	O1.	Function selection of output signal O1	KS2
0421	C	O2.	Function selection of output signal O2	OT3
0426	C	O3.	Function selection of output signal O3	CDE
0435	C	O5.	Function selection of output signal O5	NO
0444	C	O7.	Function selection of output signal O7	CDE
0461	C	OP.	Function selection of output signal OP	OT5
0477	C	A1.	Logic [AND] module A1 input function selection	S1
0480	C	N1.	Logic [AND] module N1 output function selection	OT4
0482	C	N2.	Logic [AND] module N1 output function selection	THO
0483	C	N2L.	Logic [AND] module N2 setting of Hi /Low logic	ON
0484	C	A2.	Logic [AND] module A2 input function selection	IOE
0487	C	N3.	Logic [AND] module N3 output function selection	OT2
0489	C	N4.	Logic [AND] module N4 output function selection	OP1
0491	C	A3.	Logic [AND] module A3 input function selection	IO7
0494	C	N5.	Logic [AND] module N5 output function selection	KS3
0496	C	N6.	Logic [AND] module N6 output function selection	HI
0498	C	OR.	Logic [OR] module input function selection	ES
0501	C	R1.	Logic [OR] module R1 output function selection	THO

Function number	Mode	Digital	Function Name	V702
0508	C	T1C.	Virtual output OT1 forced OFF function	ON
0509	C	T1T.	Forced OFF timer setting function for virtual output OT1	9
0520	C	CPK.	Feed pulse output (CP) cancel function	OF
0521	C	CP.	Setting CP pulse amount	65
0522	C	CPC.	Prohibited angle of output CP pulse	ON
0528	C	E.	Speed setting for the [SPE] output	600
0800	F	COA.	Set No. of stitches A for cutter output (Setting the delay time during chain-off output ON)	26
0801	F	COB.	Set No. of stitches B for cutter output (Setting the delay time during chain-off output OFF)	26
0802	F	COC.	Set No. of stitches C for cutter output	18
0806	F	SD.	Delay time to when SL output turns from OFF to ON	20
0814	F	O2M.	OT2 output chain-off output setting	ON
0815	F	O3M.	OT3 output cutter output setting	ON
0818	F	CTM.	Status of cutter output photo switch (I*2) signal according to OT3 output	ON
0900	G	TR.	Thread trimming mode	PRG
0901	G	TRM.	Motor operation mode during thread trimming	KA
0902	G	LTM.	Thread trimming output (T) output mode	T2
0904	G	TS.	Thread trimming output start angle	90
0905	G	TE.	Thread trimming output angle	240
0906	G	LS.	Thread release output start angle	160
0911	G	L2.	Thread release output time	60
0918	G	F1.	Presser foot lifting output start time	60
0919	G	FD.	Time to motor drive after presser foot lifter bring down	50
1000	H	LHH.	Upper limit of maximum speed [H]	42
1001	H	LHL.	Lower limit of maximum speed [H]	6
1002	H	LLH.	Upper limit of low speed [L]	3
1004	H	LTH.	Upper limit of thread trimming speed [T]	2
1006	H	LNH.	Upper limit of start/end tacking (condensed stitching) speed	20
1008	H	LMH.	Upper limit of medium speed [M]	20
1100	J	MAC.	Simple setting mode for [1],[2],[3] prohibit	ON
1102	J	CWC.	Rotation direction changeover prohibit	ON
1103	J	12C.	1-2 position changeover prohibit	ON
1104	J	SLC.	Slow start changeover prohibit	ON
1105	J	SPC.	Speed setting key changeover prohibit	ON
1106	J	JKC.	Not used	ON
1107	J	SBC.	Start tacking validity changeover prohibit	ON

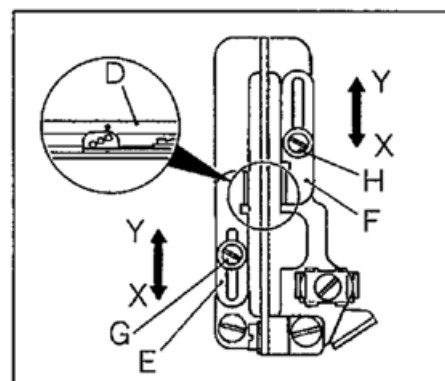
Function number	Mode	Digital	Function Name	V702
1108	J	SNC.	No. of start tacking stitches changeover prohibit	ON
1109	J	EBC.	End tacking validity changeover prohibit	ON
1110	J	ENC.	No. of end tacking stitches changeover prohibit	ON
1111	J	SKC.	Start tacking type changeover prohibit	ON
1112	J	EKC.	End tacking type changeover prohibit	ON
1113	J	TSC.	Pattern stitching validity changeover prohibit	ON
1114	J	TNC.	Pattern stitching No. of stitches and times changeover prohibit	ON
1115	J	MDC.	Pattern mode pattern changeover prohibit	ON
1117	J	BPC.	Prohibit the teaching mode key switches on control switch panel	ON
1118	J	BSC.	Prohibit the following key switches on control switch panel	ON
1120	J	BKC.	Prohibit the key switches on the control switch panel before thread trimming	ON
1416	Q	TH.	Thread break sensor valid	ON
1417	Q	TST.	Operation after thread break sensor detection	ST
1418	Q	B.	Speed to ignore thread break sensor	1000
1419	Q	THS.	No. of stitches to ignore thread break sensor after starting stitching	F
1420	Q	THE.	Number of stitches for judgment of thread break	5
1430	Q	MOB.	Not used	5
1431	Q	MOC.	Not used	23
1501	S	SQS.	Simple sequence start conditions	GO
1503	S	NS1.	Simple sequence output KS1 output beginning is time or the number of stitch is selected	ON
1505	S	S1S.	Output beginning standard of simple sequence output KS1	IN
1507	S	NS2.	Simple sequence output KS2 output beginning is time or the number of stitch is selected	ON
1509	S	S2S.	Output beginning standard of simple sequence output KS2	IN
1519	S	K11.	KS1 output start [Time]/[No. of Stitches] setting	5
1520	S	K12.	KS1 output [Time]/[No. of Stitches] setting	23
1521	S	K21	KS2 output start [Time]/[No. of Stitches] setting	17
1522	S	K22.	KS2 output [Time]/[No. of Stitches] setting	18
1523	S	K31.	KS3 output start [Time]/[No. of Stitches] setting	0
1524	S	K32.	KS3 output [Time]/[No. of Stitches] setting	30

19. ADJUSTING THE SEWING HEAD

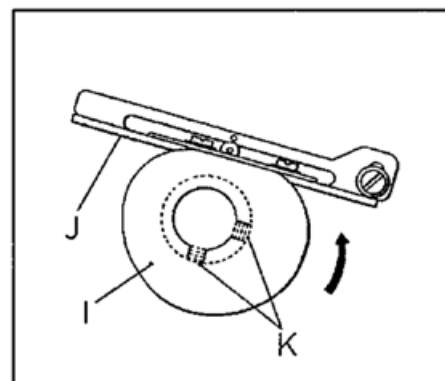
The figure shows Looper Thread Take-up. Align the uppermost holes of Thread Take-up Eyelet (E) and (F) with the mark (.) of Castle-off Plate (D), which is standard. To increase the feed amount of looper thread, loosen Screws (G) and (H) before sliding Eyelet (E) and (F) to (X)-direction.

To decrease it, loosen the Screw before sliding the Eyelet to (Y)-direction.

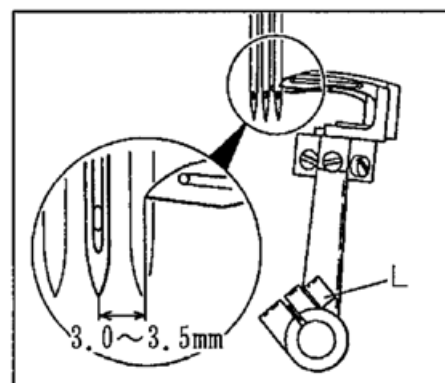
Take care that too much feed amount of looper thread may cause skip stitch.



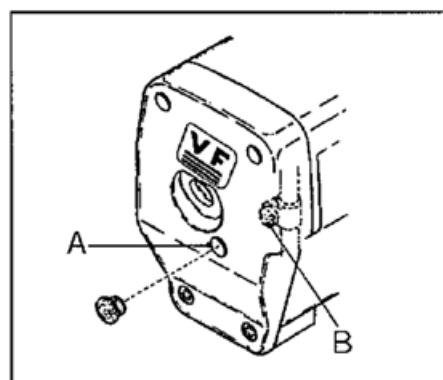
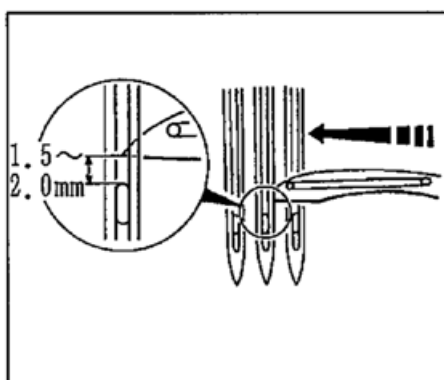
The figure shows looper Thread Take-up seen from Needle Bar side. When looper is at the leftmost position (the uppermost position of Needle Bar), loosen Screw (K) before making the flat face of looper Thread Take-up (I) level with Supporting Plate (J).



We recommend the central Needle for the adjustment. When Needle is at the lowest position of its travel and Looper reaches the rightmost position, the distance between the tip of Looper and the center of Needle is 3.0~3.5mm respectively.

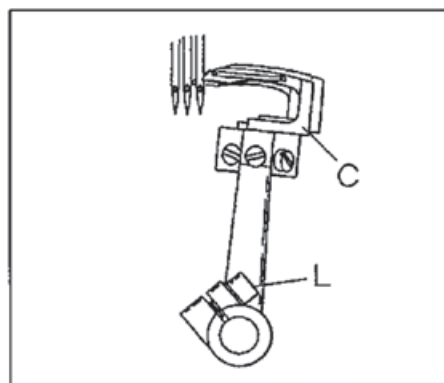
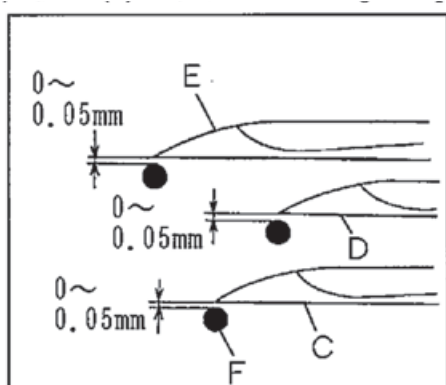


We recommend the central Needle for the adjustment. At both moving to the left and to the right of Looper, when the tip of Looper comes to the center of Needle, the tip must 1.5~2.0mm above the upper end of needle eye. For its adjustment, insert Screwdriver from the hole (A) of Head Cover. Loosen Screw (B) of Needle Bar Bracket before moving Needle Bar up and down.



The standard clearance between the tip of Loopers and Needles is 0~0.05mm respectively.

We recommend the central Needle (F) and Looper (C) for the first adjustment. Insert Looper (C) (with a flat spot) to the bottom tightening Screw of Looper. For its adjustment, loosen Screw (L) of Looper Holder before moving Looper Holder in front and in rear. Next, for making the clearance of 0~0.05mm, loosen Screw of Looper (D) and (E) before turning Looper.

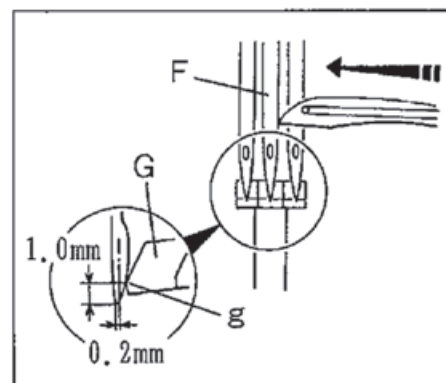


We recommend the central Needle (F) and its Looper for the first adjustment.

When the Looper comes to the right end of Needle (F), the height (G) portion of Needle Guard (G) is about 1.0mm above the tip of the Needle.

Fix Needle Guard (G) to push Needle slightly. The clearance between Needle and Needle Guard is 0mm or up to 0.2mm.

When Needle (F) is adjusted, the right and left Needle can be also adjusted. However, check their condition.



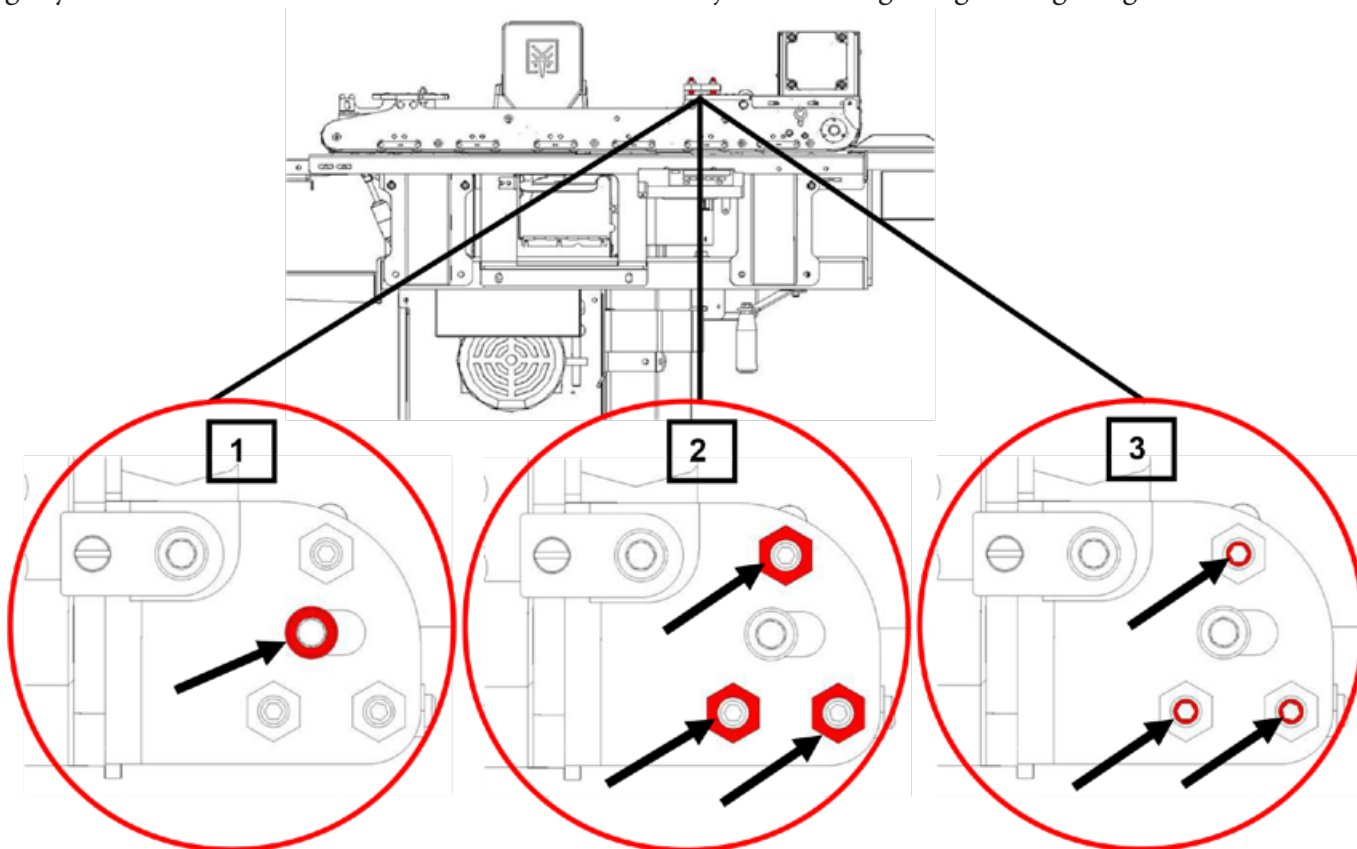
20. FEEDING BELT MECHANICAL ADJUSTMENT



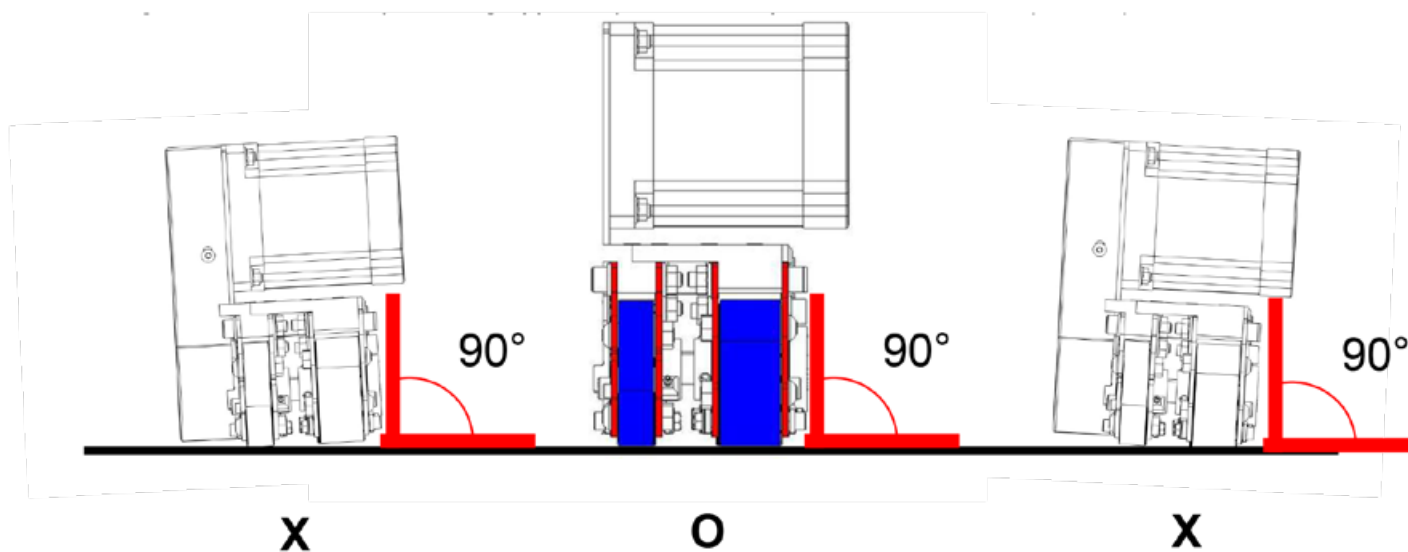
20.1- Belt planarity adjustment

To Adjust the planarity of the belts , to obtain a perfect and equal transport:

Slightly loosen the screw 1 Then loosen the bolts 2 and adjust loosening or tightening the grab screws 3



The correct adjustment is when the belts are perfectly 90° respect to the working surface.

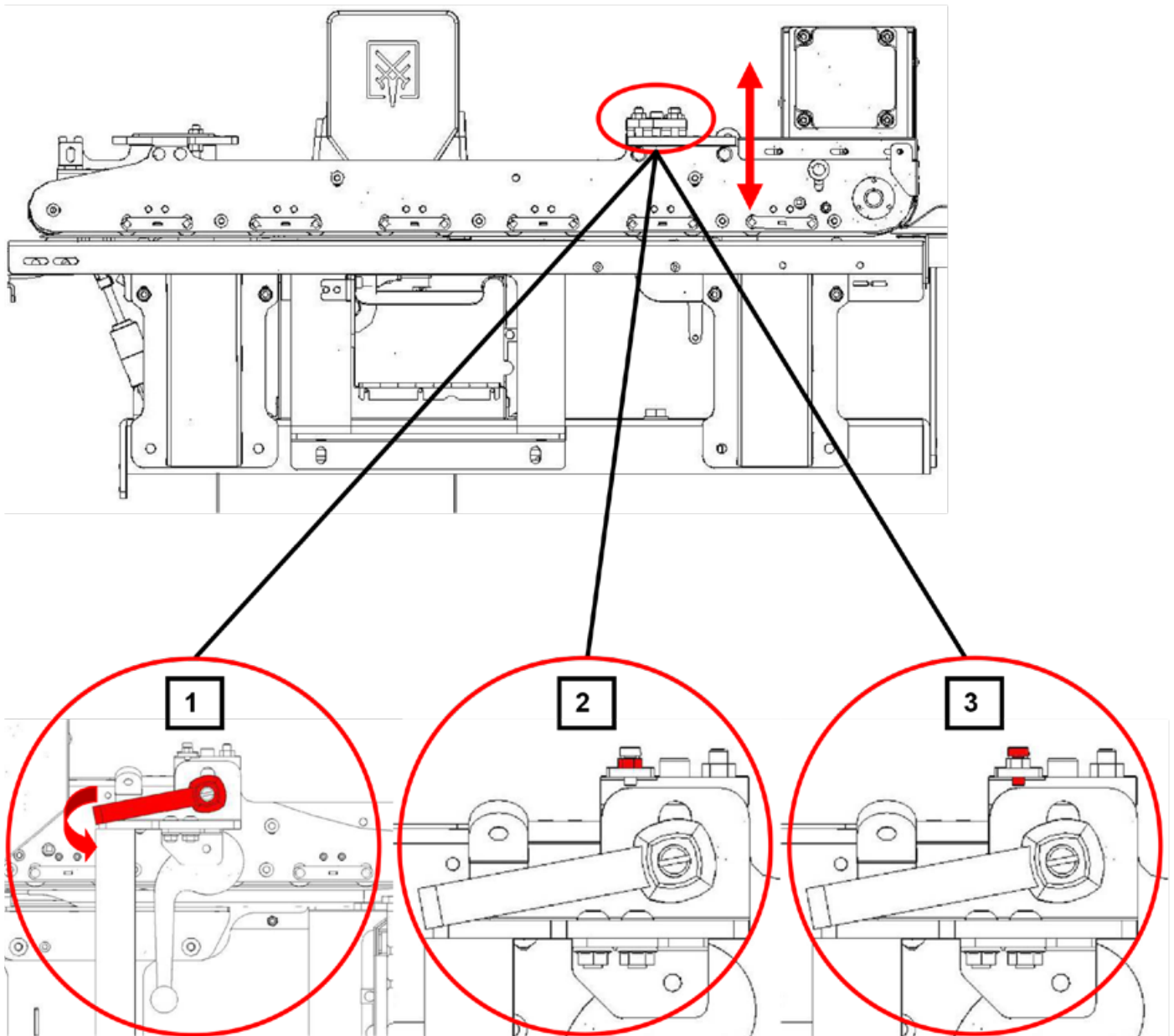


Once set the belts parallel respect to the working surface tighten the screw 1 and tighten the bolt 2 then re control that the transport group didn't move and is still parallel to the surface.

20.2- Belt height adjustment



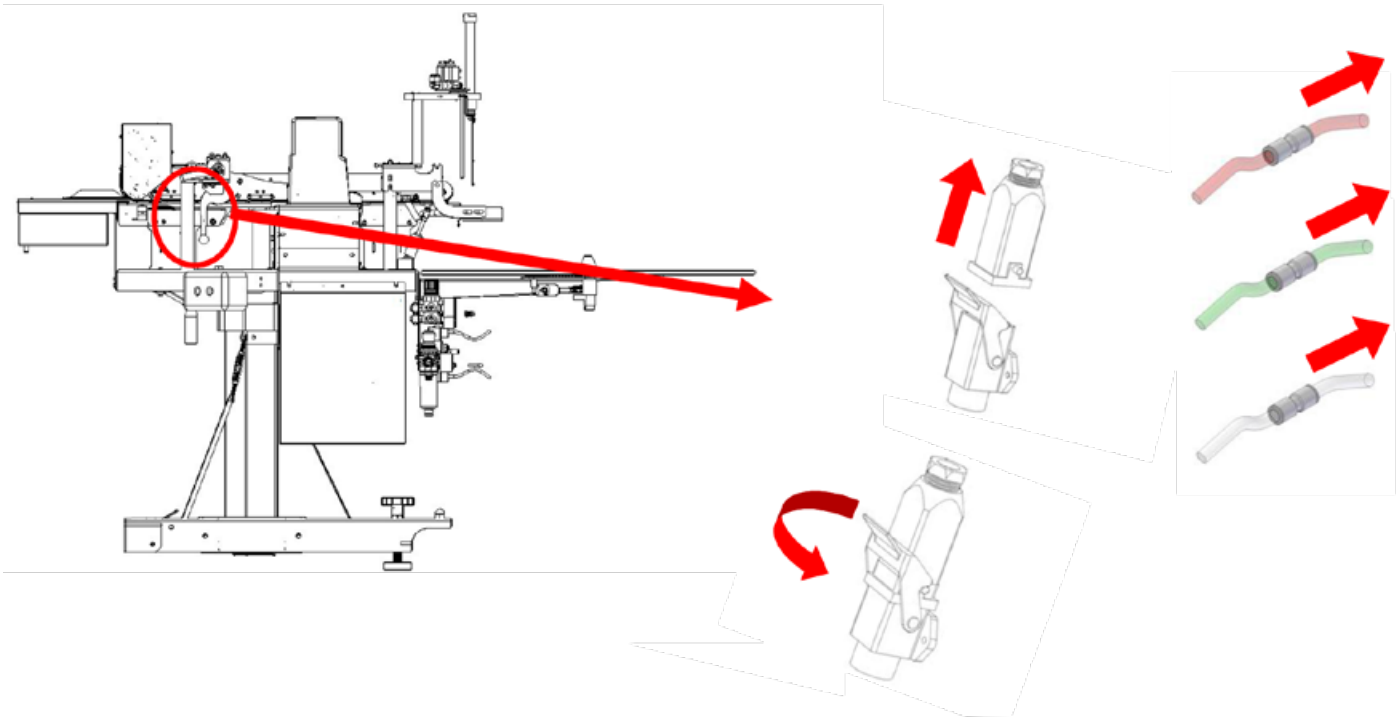
To adjust the belt height when changing from light to heavy fabric or vice versa follow this instructions:
Loosen the handle 1 then loosen the nut 2 and adjust tightening or loosening the screw 3.



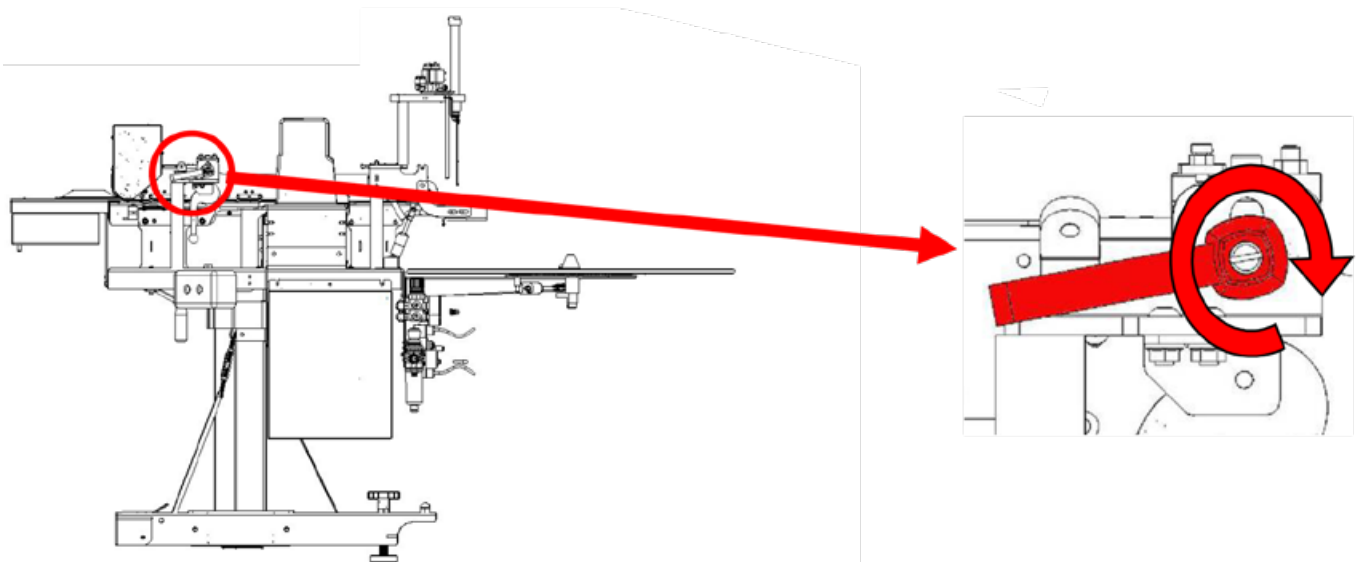
21. CHANGING THE BELTS



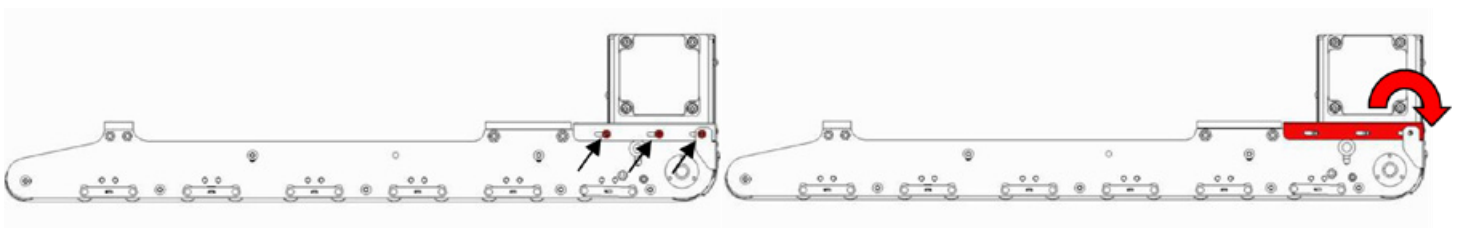
To change the belts:
Switch OFF the machine and unplug the power connector and release the air pipes.



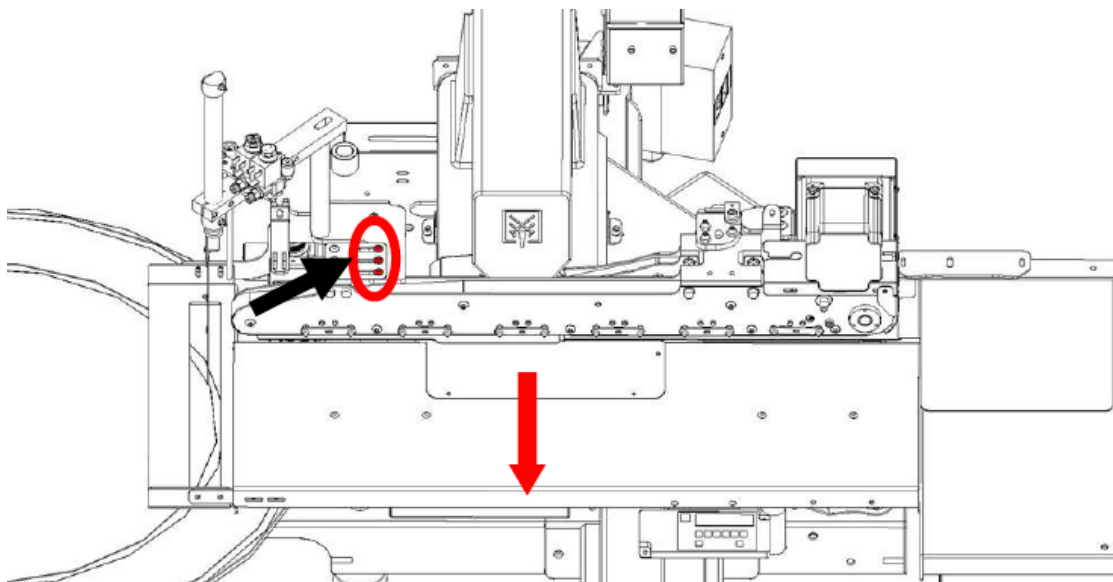
Unscrew completely the handle.



Remove the 3 screws that fix the upper cover, then remove the cover.



Remove the 3 round head screws that fix the end part of the feeding device.

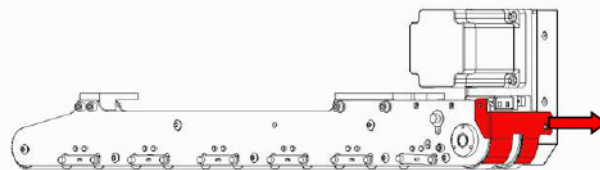
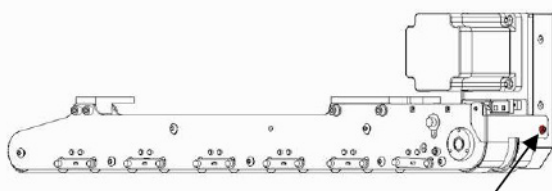


And move the device out to work better.

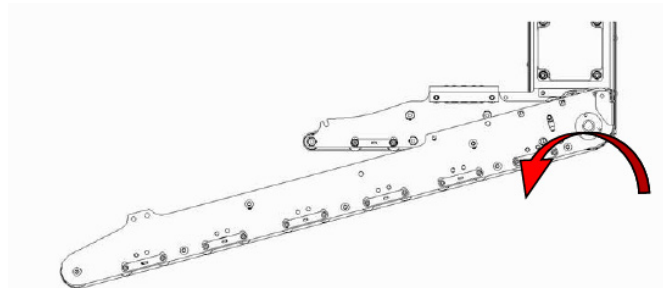
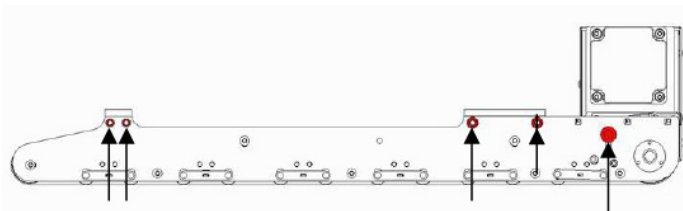
21.1- Changing the long belt



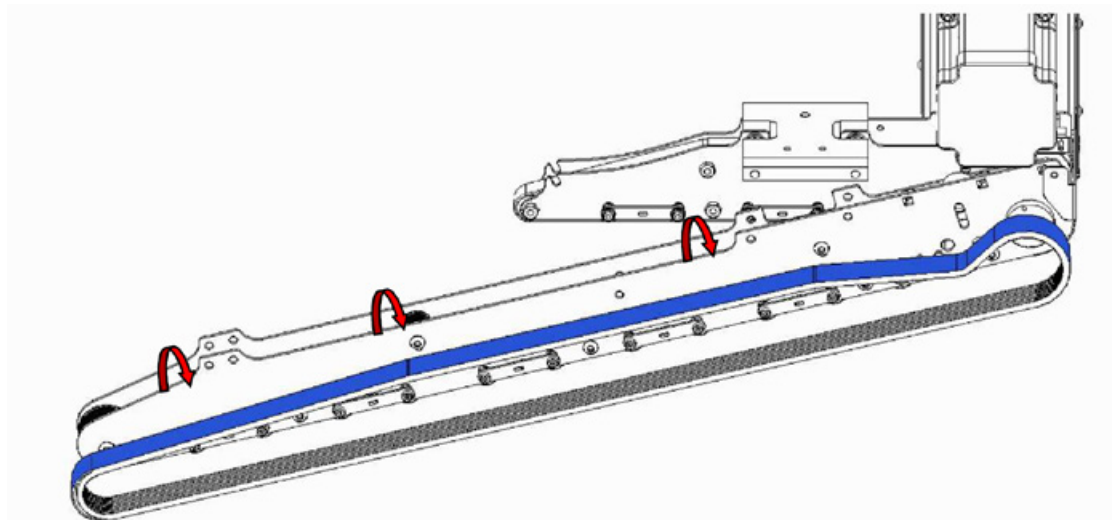
Remove the screw that fixes the rear side cover and remove the cover.



Remove the 4 fixing screws plus the belt tensional.



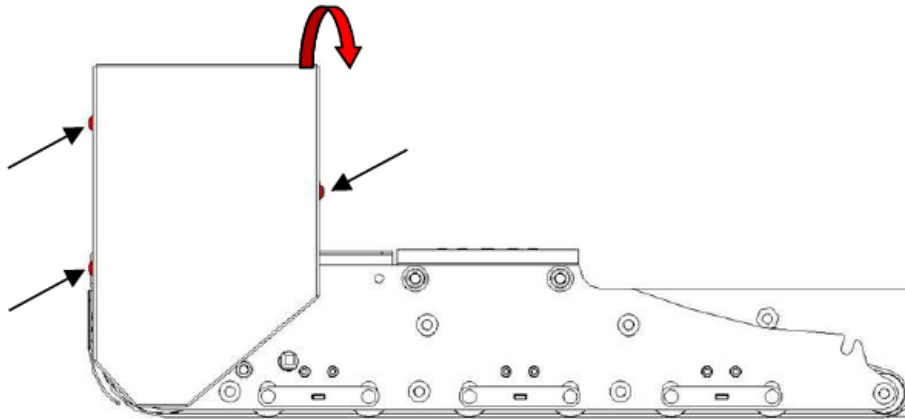
Now it is easy to move the device and remove the belt.



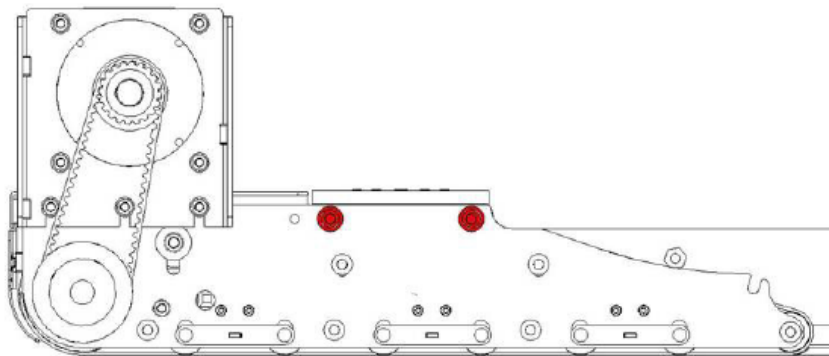
21.2- Changing the small belt



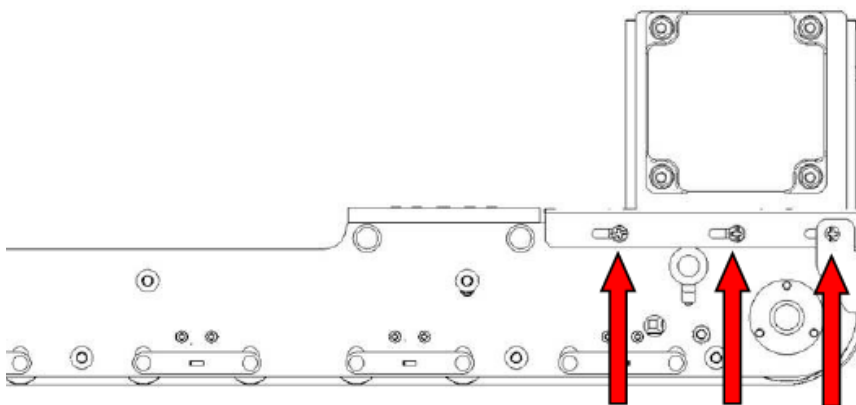
Loosen the 3 screws of the cover of the step motor and take away the cover.



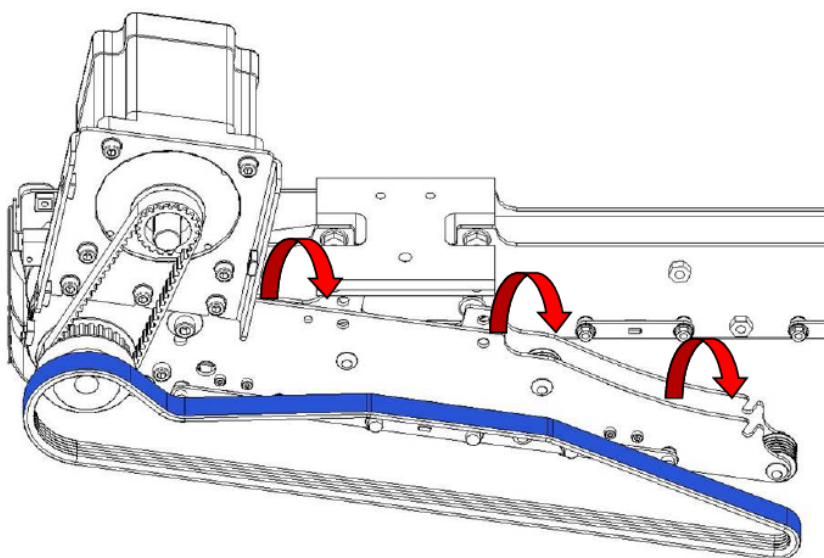
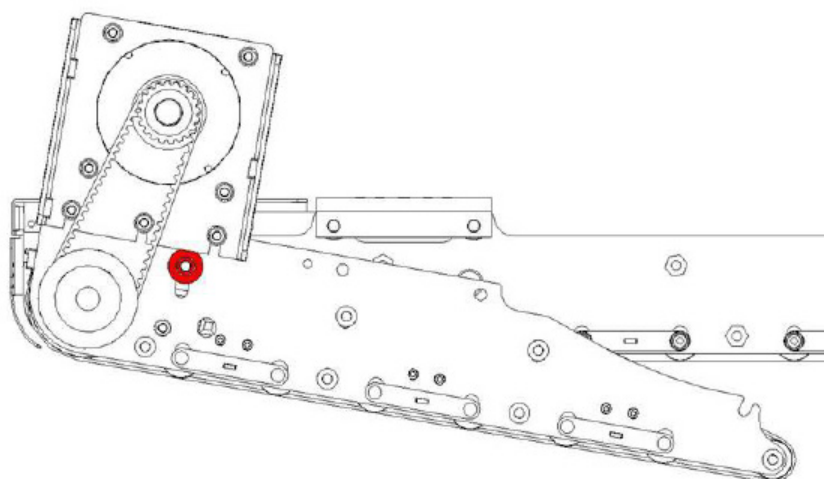
Remove the 2 screws that fix the bracket.



Remove the screws that fix the protection cover.



Remove the belt tensioner.



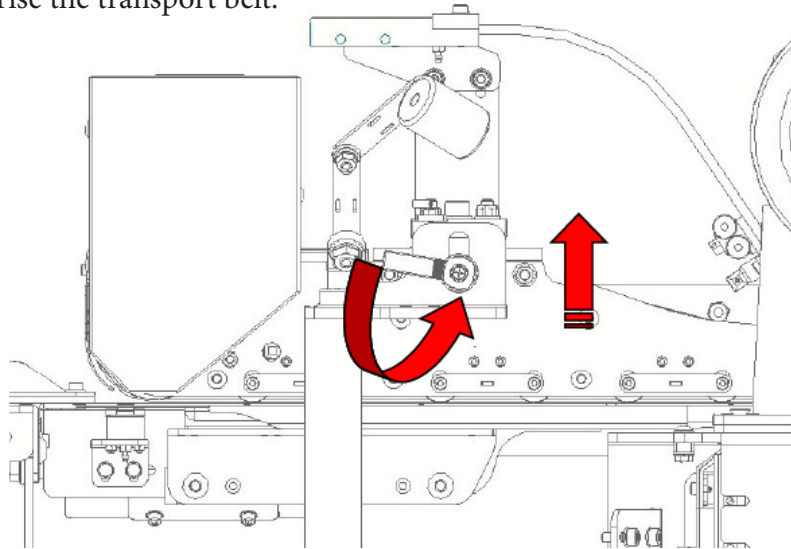
22. FOLDER ADJUSTMENT



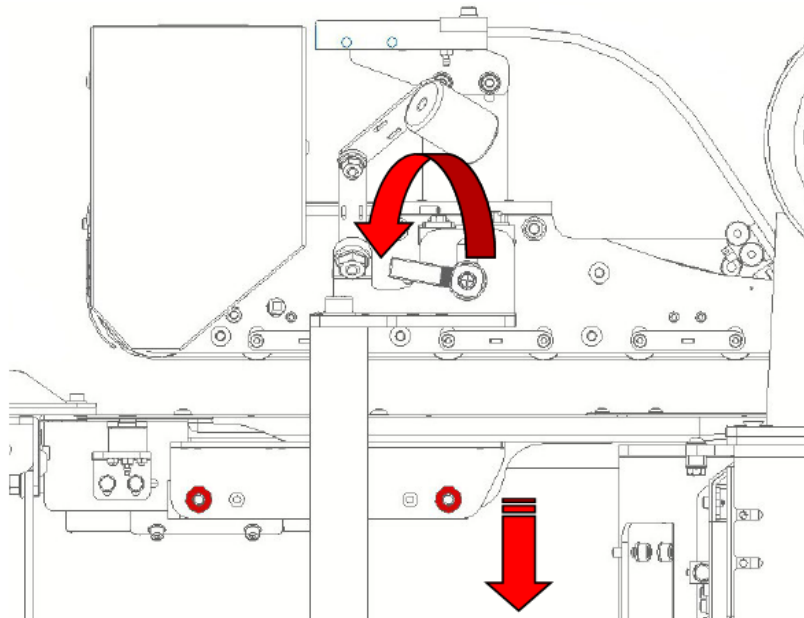
To remove the folder:

TURN POWER OFF

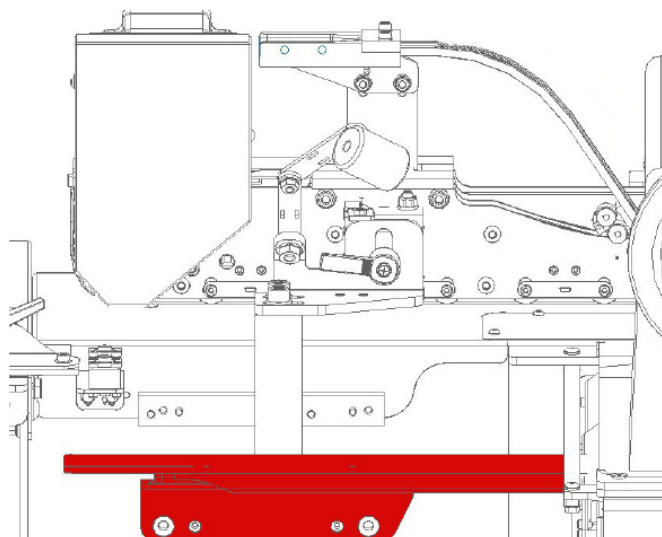
Unscrew the handle and rise the transport belt.



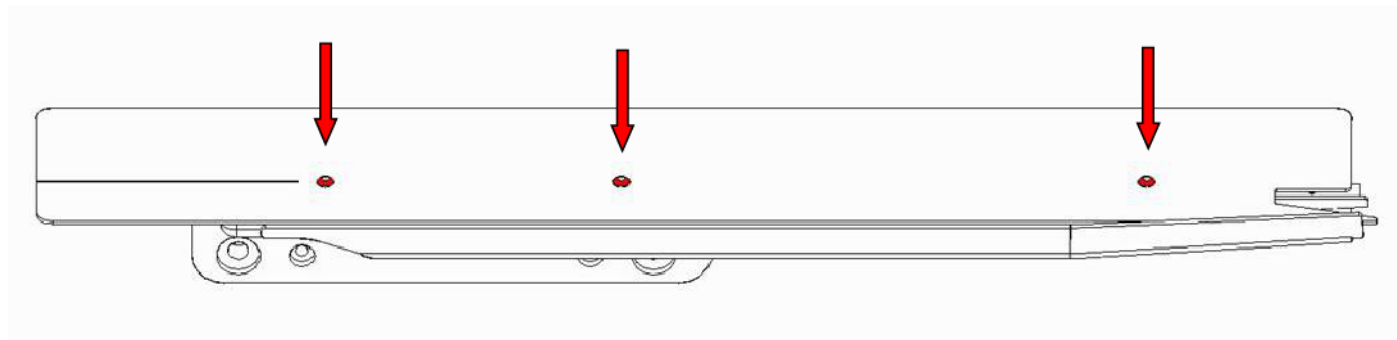
Tighten the handle and loosen the 2 screws that fix the folder.



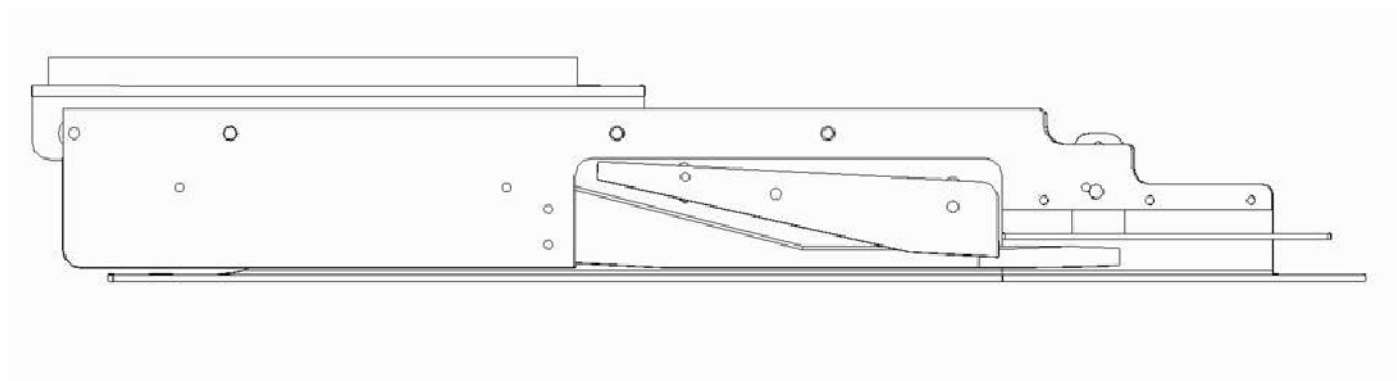
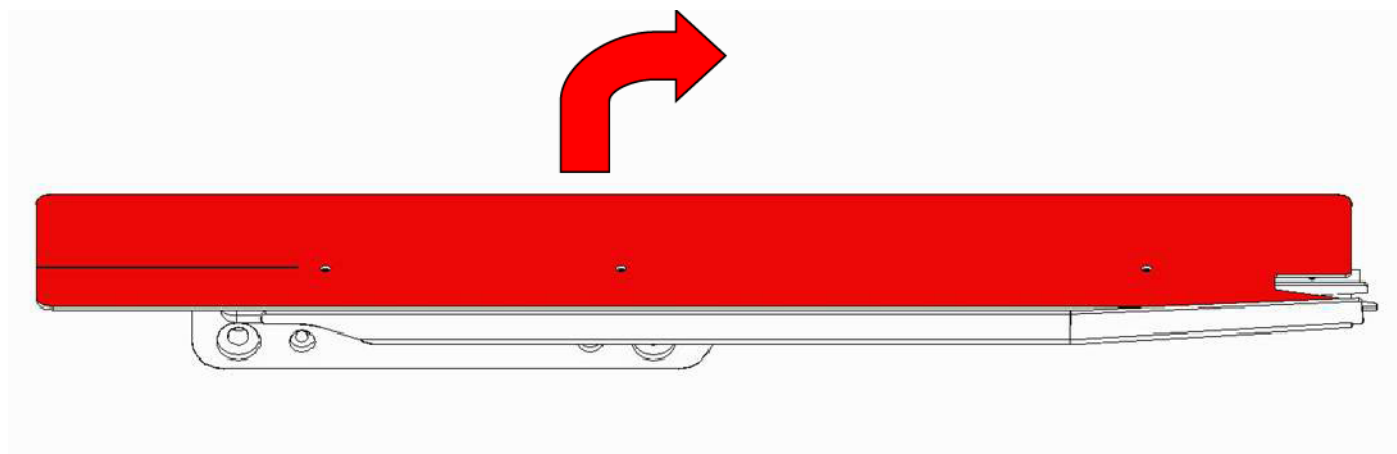
And remove the folder.



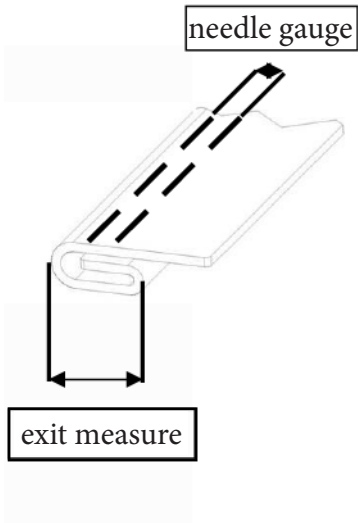
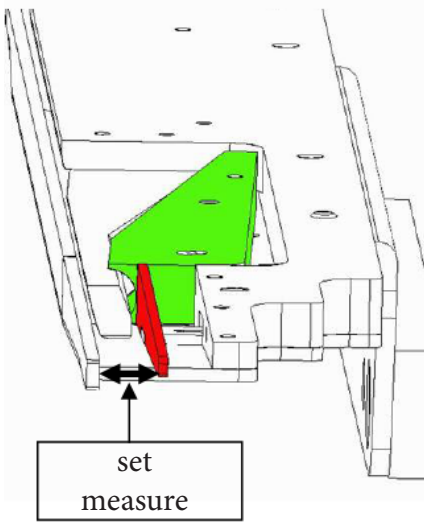
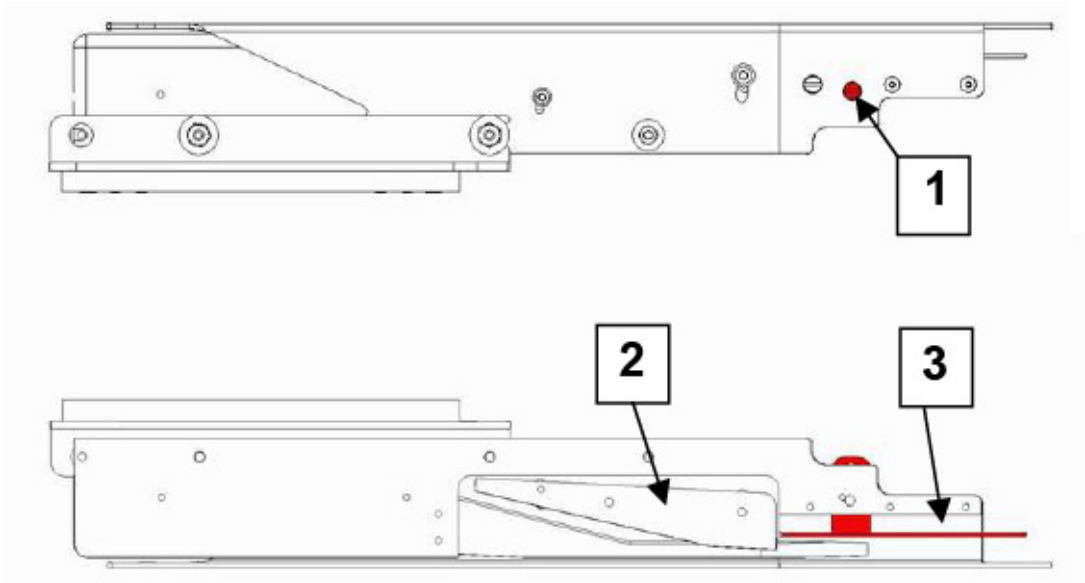
Remove the 3 screws.



And remove the closing plate.

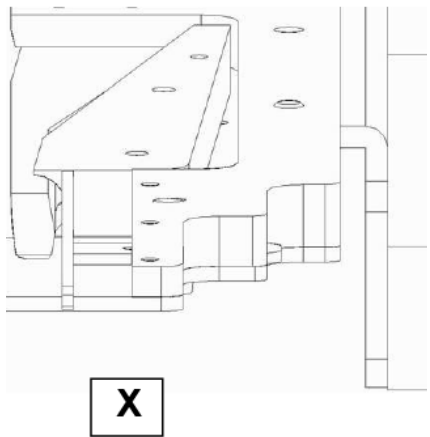
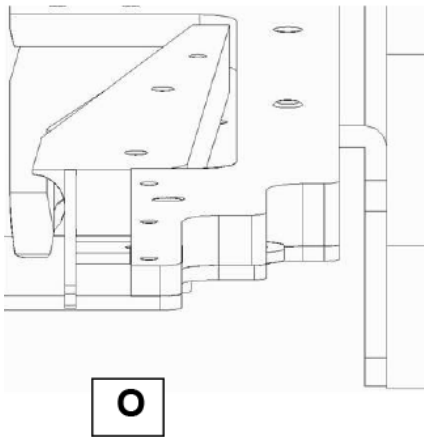
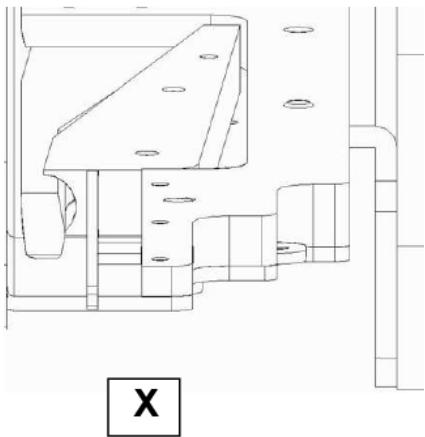


To adjust the exit guide loosen the screw (1) on the lower side of the folder and open or close the guide (2) to obtain the desired exit measure, when adjust this guide always remember to align the folding guide (3) (as shown in the lower image on this page)

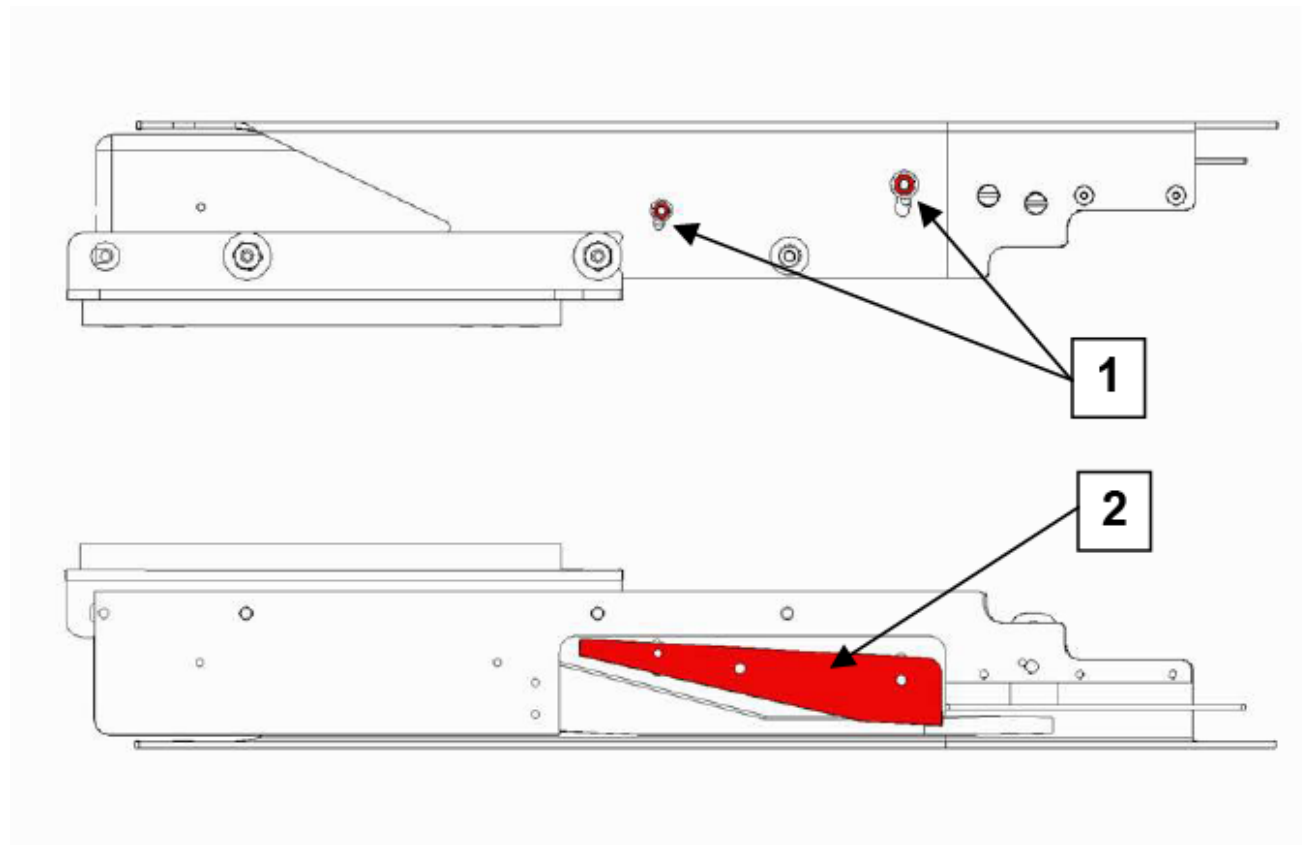


needle gauge	6.4mm
set measure	9.5mm
exit measure (fabric medium)	12.5mm

needle gauge	7.2mm
set measure	11.3mm
exit measure (fabric medium)	13.3mm



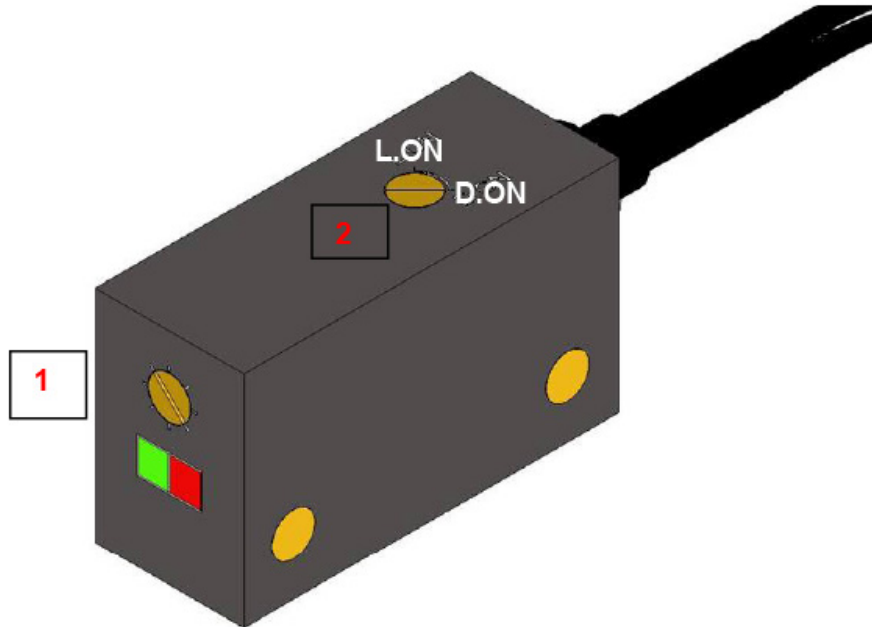
To adjust the fabric folding guide loosen the 2 screws on the back side (1) of the folder and move the guide to be aligned perfectly with the exit guide.



23. PHOTOCELL ADJUSTMENT

On the photocell there are 2 regulators:

- 1) Is to adjust the sensibility
- 2) Is to adjust the sensor normally open or normally closed ALWAYS SET OUR photocell on D.ON



To adjust the sensibility of the photocell

When there is NO fabric under the photocell only the green light must be ON

Then to adjust correctly we suggest to do the regulation using a peace of white fabric
And position it under the photocell both lights (green and red) must be ON

24. CLEANING



The user **MUST** always switch off the unit following procedure 5 and **STOP THE MACHINE**.

Clean the following points with a jet of compressed air every day:

- The machine in general, especially under the needle plate.
- The machine puller pair of top rollers from any pieces of thread.
- The machine puller bottom drive roller from any pieces of thread.
- The MITSUBISHI motor suction filter
- The photocells (clean carefully with a cloth).
- The photocell reflective surface (clean carefully with a cloth).

25. LUBRICATION

WARNING

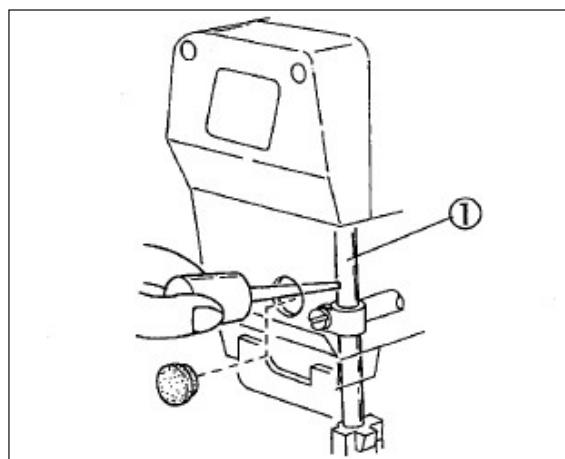
Before lubricatin, **ALWAYS** turn the power switch **OFF** and check that the machine has already stopped

Use YAMATO SF OIL N° 28

CAUTION

Never add additives the oil.

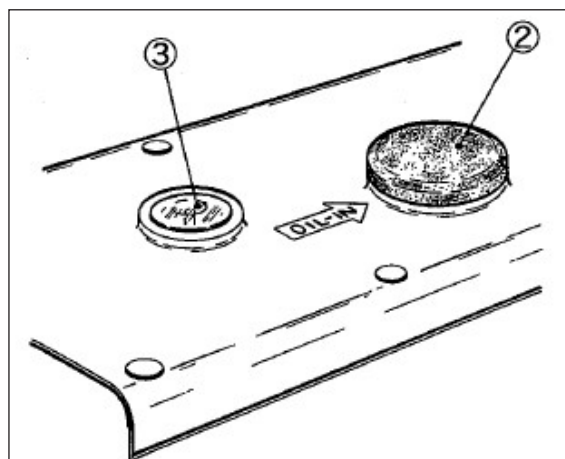
If added, it cause the deterioration of the oil and the damage to the machine.



When using a new machine, or a machine wich has not been run for a while, supply a few drops of oil to the bar "1".

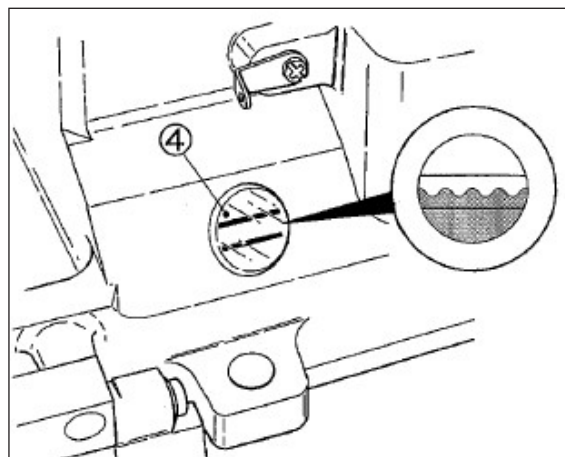
Remove the seal plug "2" indicated "OIL-IN" and supply oil to the upper line of the oil sight gauge "4".

Check that oil splashed from the nozzle inside the oil sight window "3" while running a machine.



CAUTION

Too much insufficient oil can use oil leakage and machine trouble. Be sure to keep the oil level between the lines. Also too much lubrication can cause oil scatter and material stain.





WARNING

Before lubrication, ALWAYS turn the power switch OFF and check that the machine has already stopped

Period of changing:

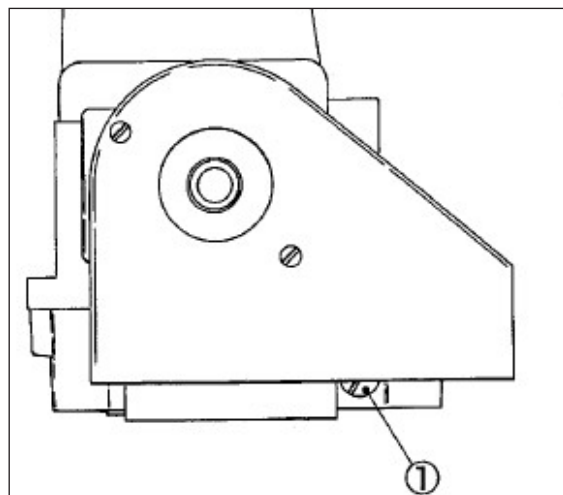
When using a new machine, change the lubricating after running a machine for 200 hours (for about one month). After that, change the oil once or twice a year.

Procedure for changing:

- (1) Remove the belt cover.
- (2) Remove V-belt from the motor pulley.
- (3) Remove the machine from the machine table.
- (4) Set a container received the oil under the screw 1.
- (5) After removing screw 1, oil stand drained.

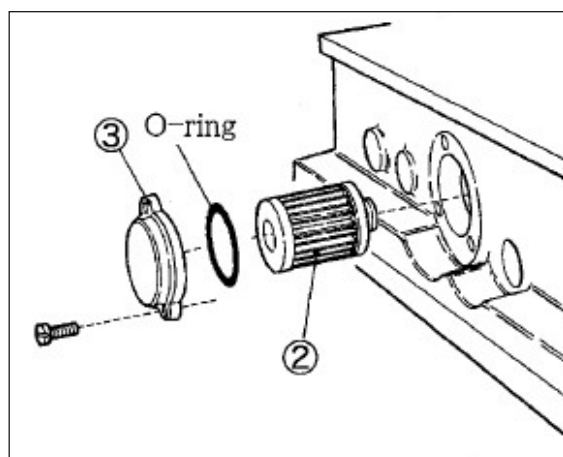
NOTE

Be careful not to soil the V-belt and the machine pulley with the oil.



- (6) Reset the screw 1.
- (7) Change the oil.
- (8) Reset the machine on the machine table.
- (9) Hang V-belt on the motor pulley and reset the belt cover.

- If the oil filter 2 is clogged with dust, lubrication cannot be done properly.
- Remove the oil filter cap 3 and the oil filter 2 to check them every six months. If clogged or cracked, clean or replace the oil filter.
- If oil splashed from the nozzle insufficiently or includes many bubbles though the oil is sufficiently kept, check or replace the oil filter.



26. ELECTRICAL DIAGRAM

Electric diagram

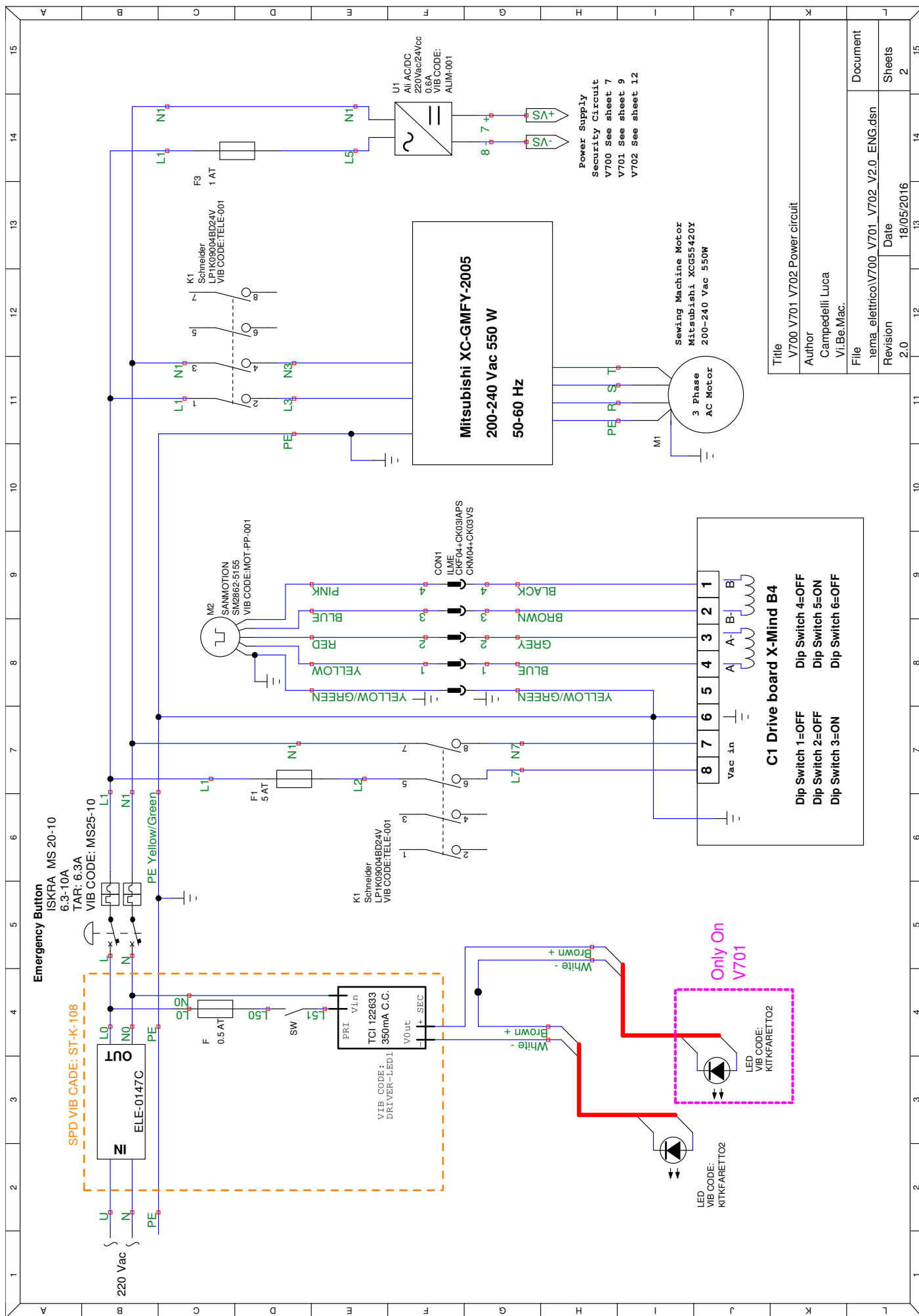
V700-V701-V702



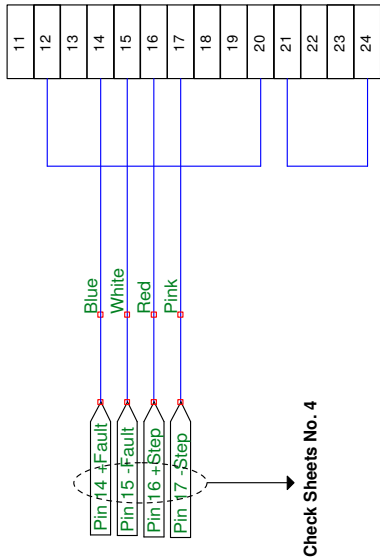
Vi.Be.Mac.



Title	V700 V701 V702
Author	Campebelli Luca
Vi.Be.Mac.	
File	terna_elettrico\700 V701 V702 V2.0 ENG.dsn
Revision	2.0
Date	18/05/2016
Document	
Sheets	1

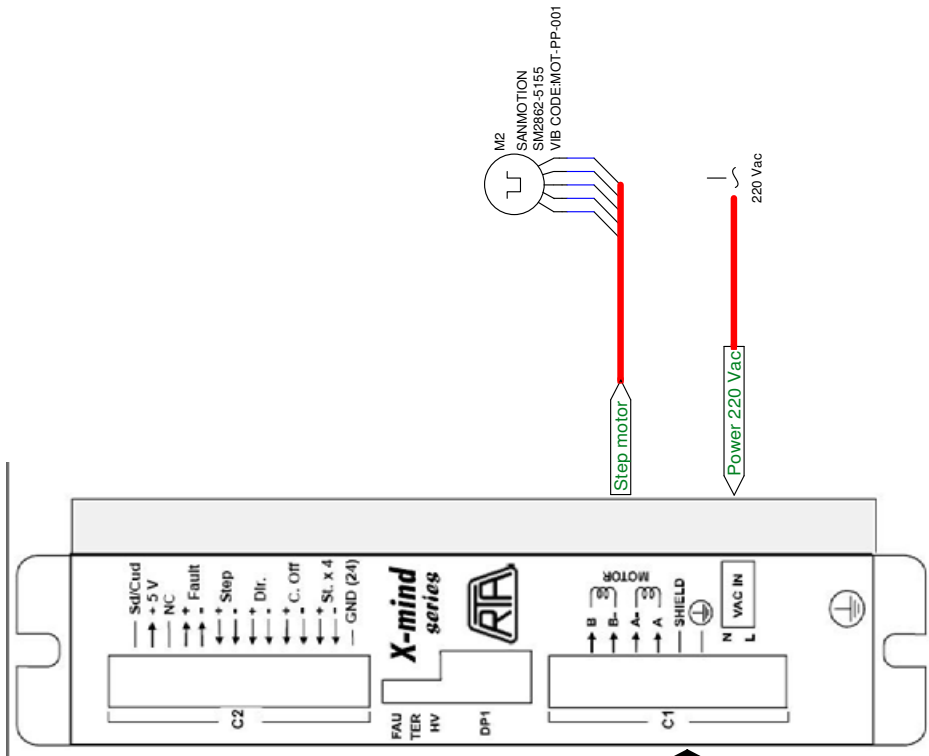


Connector 2



- Dip Switch 1=OFF LED
- Dip Switch 2=OFF DP1
- Dip Switch 3=ON DIP-SWITCH
- Dip Switch 4=OFF
- Dip Switch 5=ON
- Dip Switch 6=OFF

Connector 1
Check Sheets no. 2



Title
V700 V701 V702 Step Driver Connection

Author
Campedelli Luca
Vi.Be.Mac.

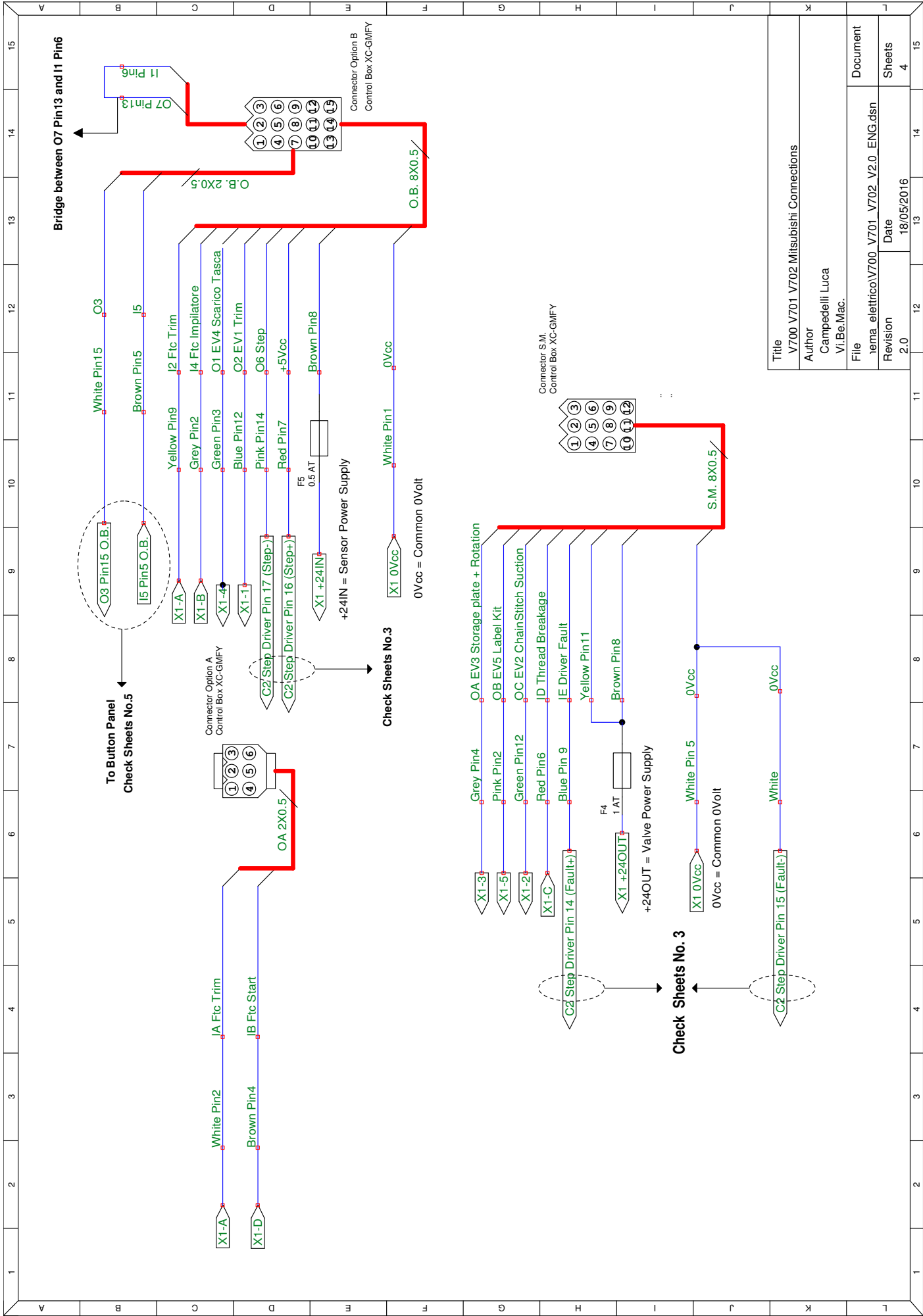
File
tema_elettrico\700_V701_V702_V2.0_ENG.dsn

Revision
2.0

Date
18/05/2016

Document

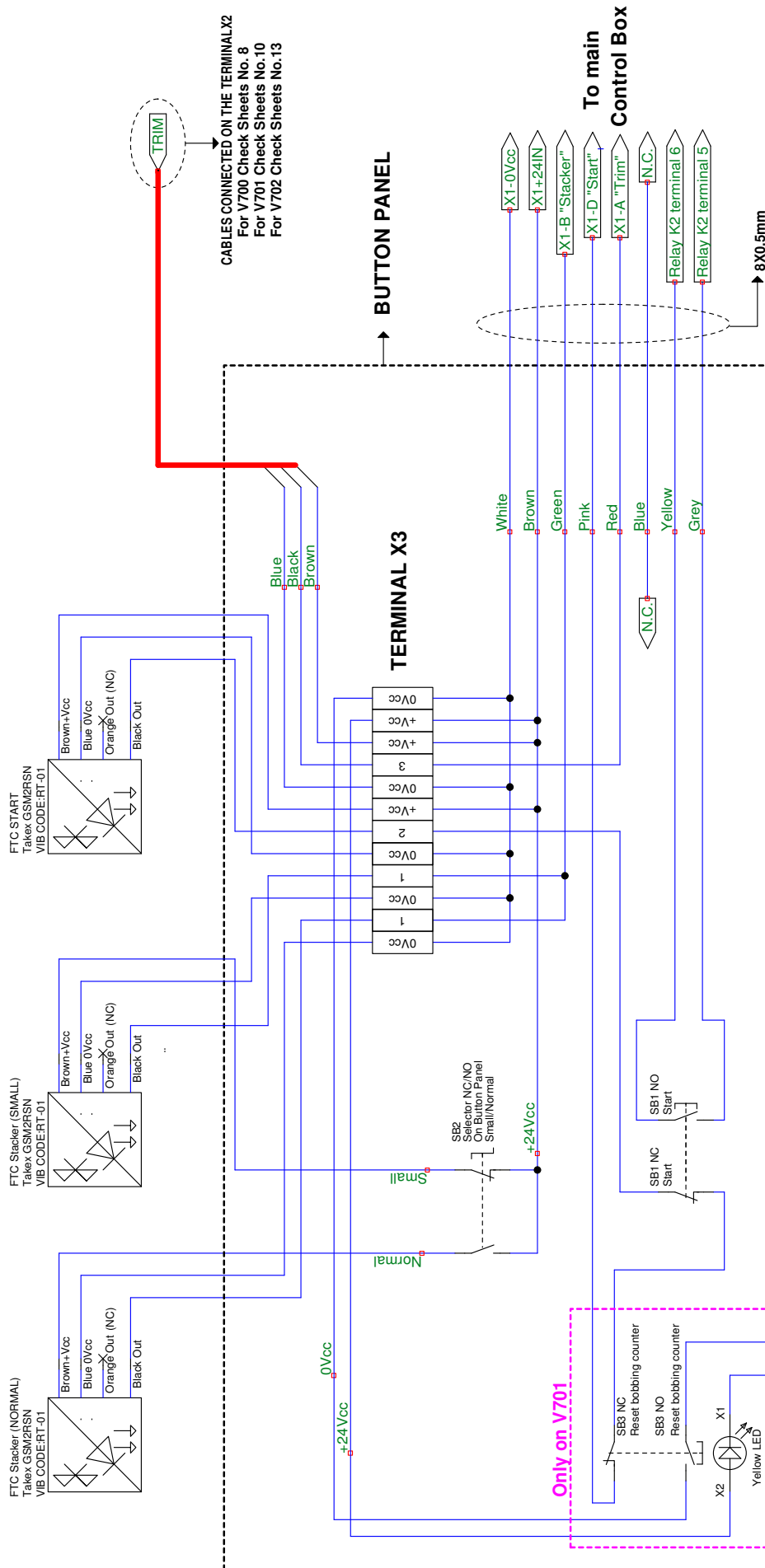
Sheets
3



Title	V700 V701 V702 Mitsubishi Connections
Author	Campedelli Luca
File	Vi.Be.Mac.
Revision	2.0
Date	18/05/2016
Document	
Sheets	4

TERMINAL X3 CONNECTIONS

Inside Button Panel - GEWISS series GW27



TERMINAL X3 (INSIDE THE BUTTON PANEL)

0Vcc: 0Vcc
+Vcc: +24 Vcc

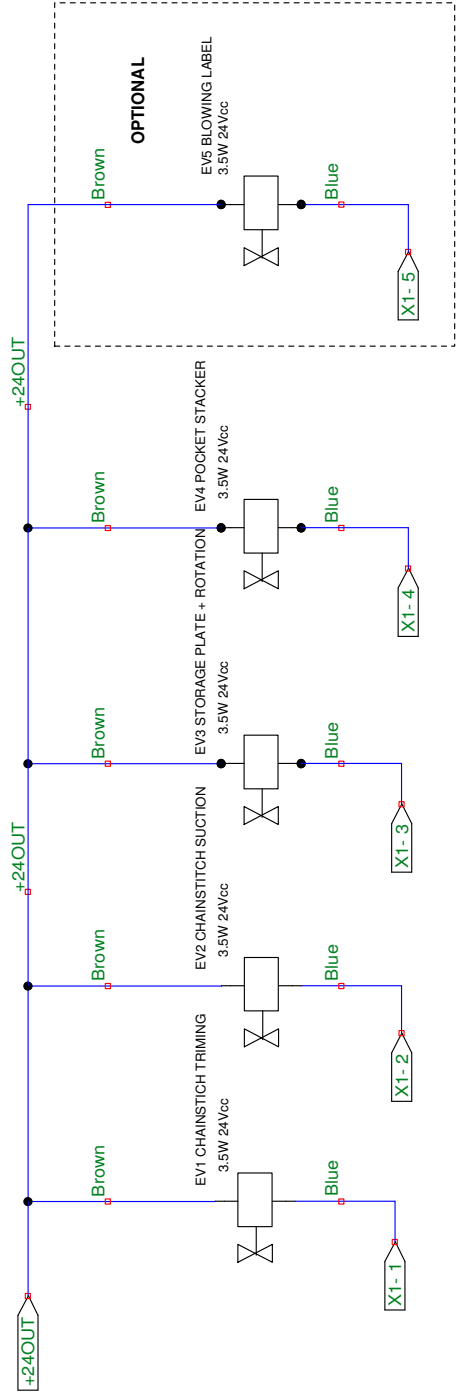
- 1: OUTPUTS FTC SMALL AND NORMAL - GREEN WIRE
2: OUTPUT FTC START - PINK WIRE
3: OUTPUT FTC TRIMMING - RED WIRE

Check Sheets No. 4
I5 Pin5 O.B.
O3 Pin15 O.B.

Title	V700 V701 V702 Pulsantiera bordo macchina
Author	Campedelli Luca
File	tema_elettrico\V700_V701_V702_ENG.dsn
Revision	2.0
Date	18/05/2016

Document	5
Sheets	5

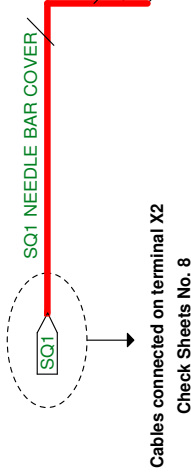
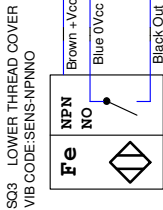
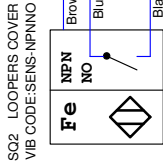
Output Valves Connections on Terminal X1



Title	V700 V701 V702 Valve Output
Author	Campedelli Luca
File	Vi.Be.Mac.
Revision	2.0
Date	18/05/2016
Document	
Sheets	6

SAFETY SENSORS DESCRIPTION

- SQ1 Needle bar cover
- SQ2 Loopers cover
- SQ3 Lower thread cover



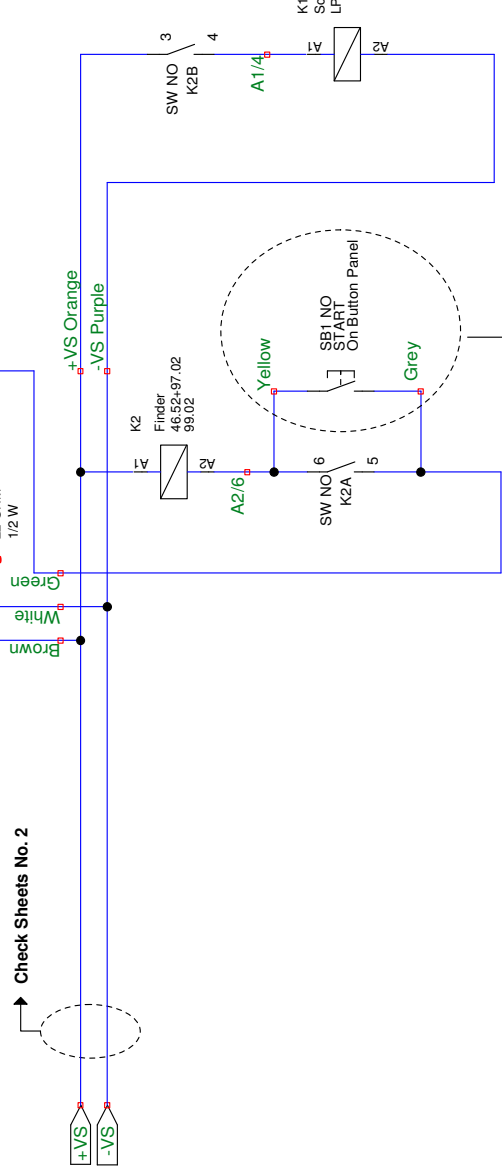
TERMINAL X4 (Inside main Control Box):

- +Vcc: +24Vcc Sensor Power Supply
- 0Vcc: 0Vcc Sensor Power Supply
- 1: Serial connections of the sensors SQ1 e SQ2
- 2: Serial connections of the sensors SQ2 e SQ3
- 3: Output signal of the safety sensor SQ3

Resistor 22 Ohm 1/2W

Check Sheets No. 2

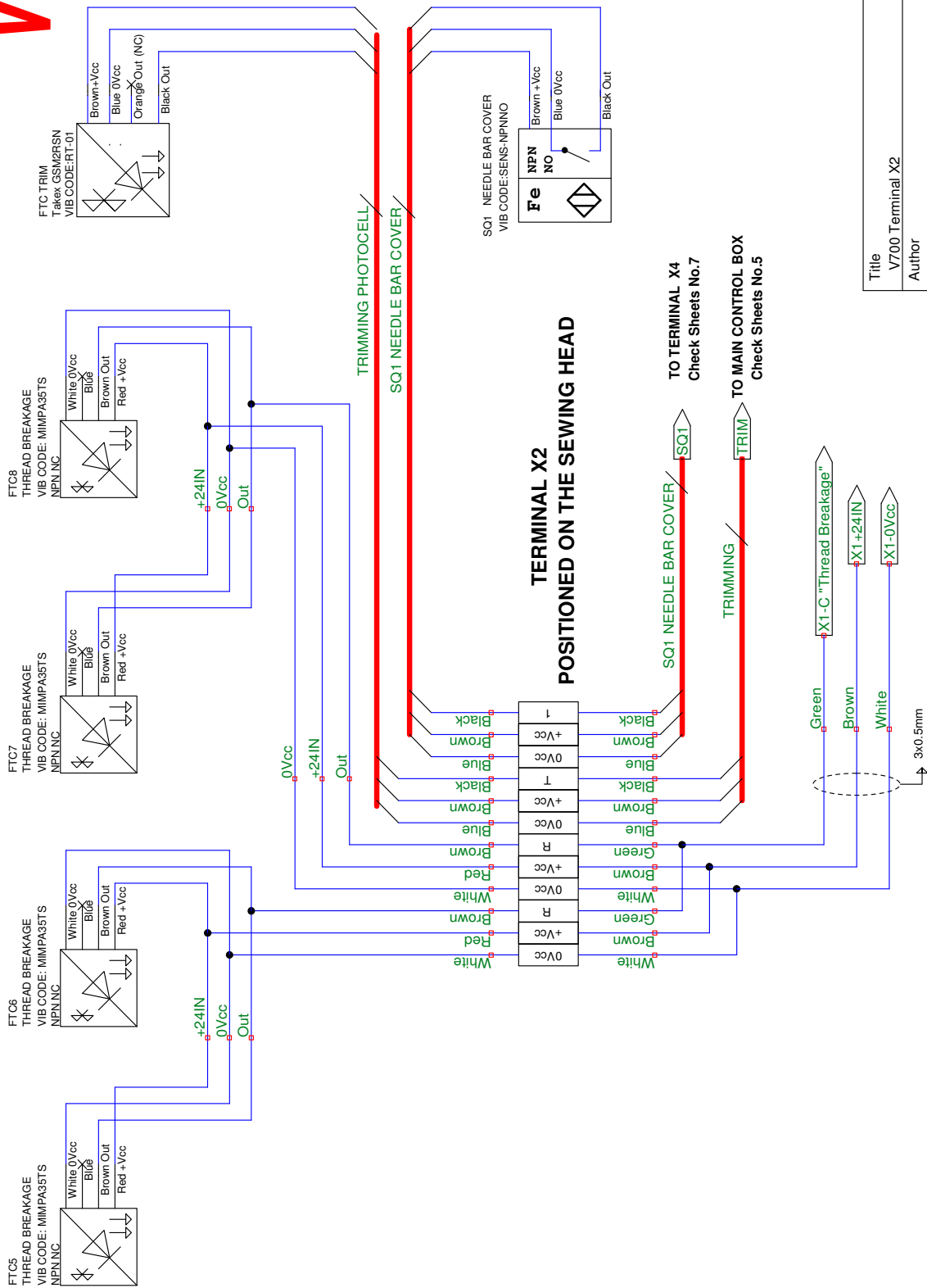
Check Sheets No.5



V700

Title	V700 Terminal X4
Author	Campedelli Luca
File	tema_elettrico\V700_V701_V702_V2.0_ENG.dsn
Revision	2.0
Date	18/05/2016
Document	Sheets
7	15

V700

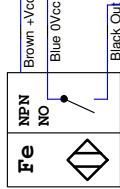


Title	V700 Terminal X2
Author	Campelelli Luca
File	nema_elettrico\V700_V701_V702_V2.0_ENG.dsn
Revision	2.0
Date	18/05/2016
Document	8

SAFETY SENSORS DESCRIPTION

- SQ1 Cover moving knife and right rotary hook
- SQ2 Left rotary hook cover

SQ2 Left rotary hook cover
VIB CODE:SENS-NPNNO



SQ1

SQ1 Cover moving knife and right rotary hook

Cables connected on terminal X2
Check Sheets No. 10

BRIDGE

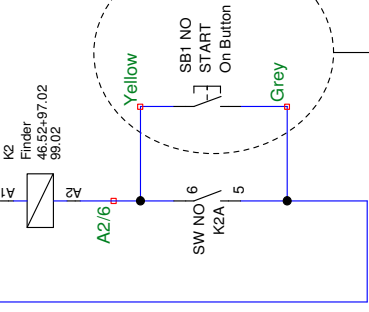
Resistor 22 Ohm 1/2W
RS 132090

TERMINAL X4 (Inside main Control Box):

- +Vcc: +24Vcc Sensor Power Supply
- 0Vcc: 0Vcc Sensor Power Supply
- 1: Serial connections of the sensors SQ1 e SQ2
- 2: Bridge connections between sensors SQ2 e SQ3
- 3: Output signal of the safety sensors

Check Sheets No. 2

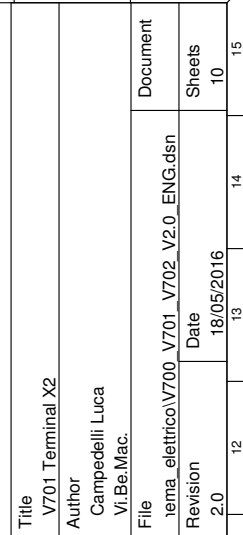
+VS
-VS



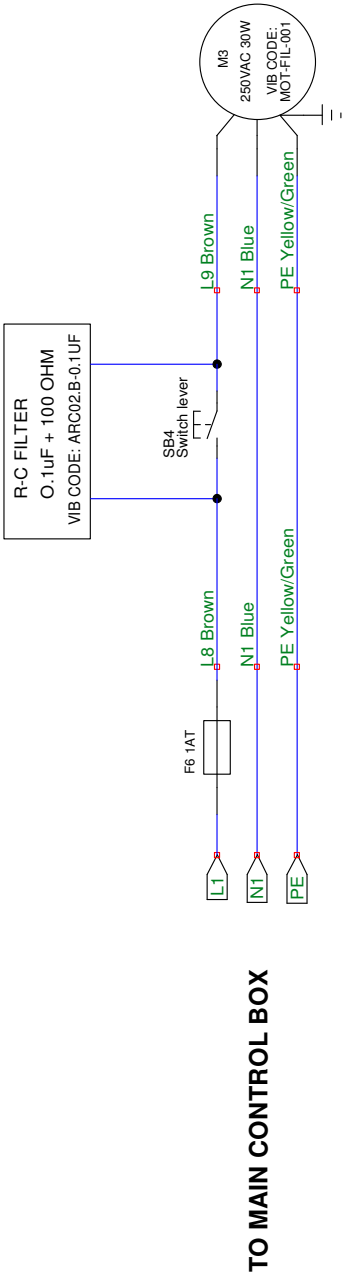
Check Sheets No. 5

Title	V701 Terminal X4
Author	Campedelli Luca
File	tema_elettrico\V700_V701_V2.0_ENG.dsn
Revision	2.0
Date	18/05/2016
Document	Sheets 9

V701

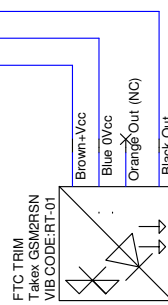
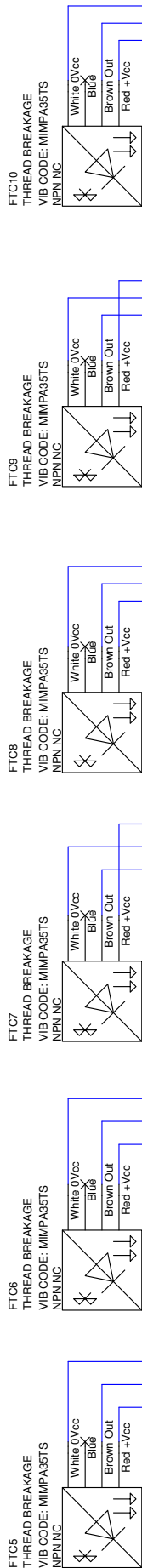


V701



Title	V701 Bobin Winder
Author	Campedelli Luca
File	nema_elettrico\V700_V701_V702_V2.0_ENG.dsn
Revision	2.0
Date	18/05/2016
Document	11

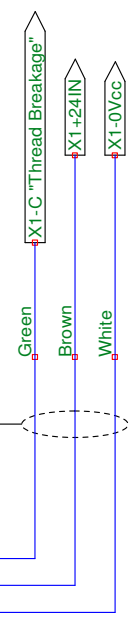
V702



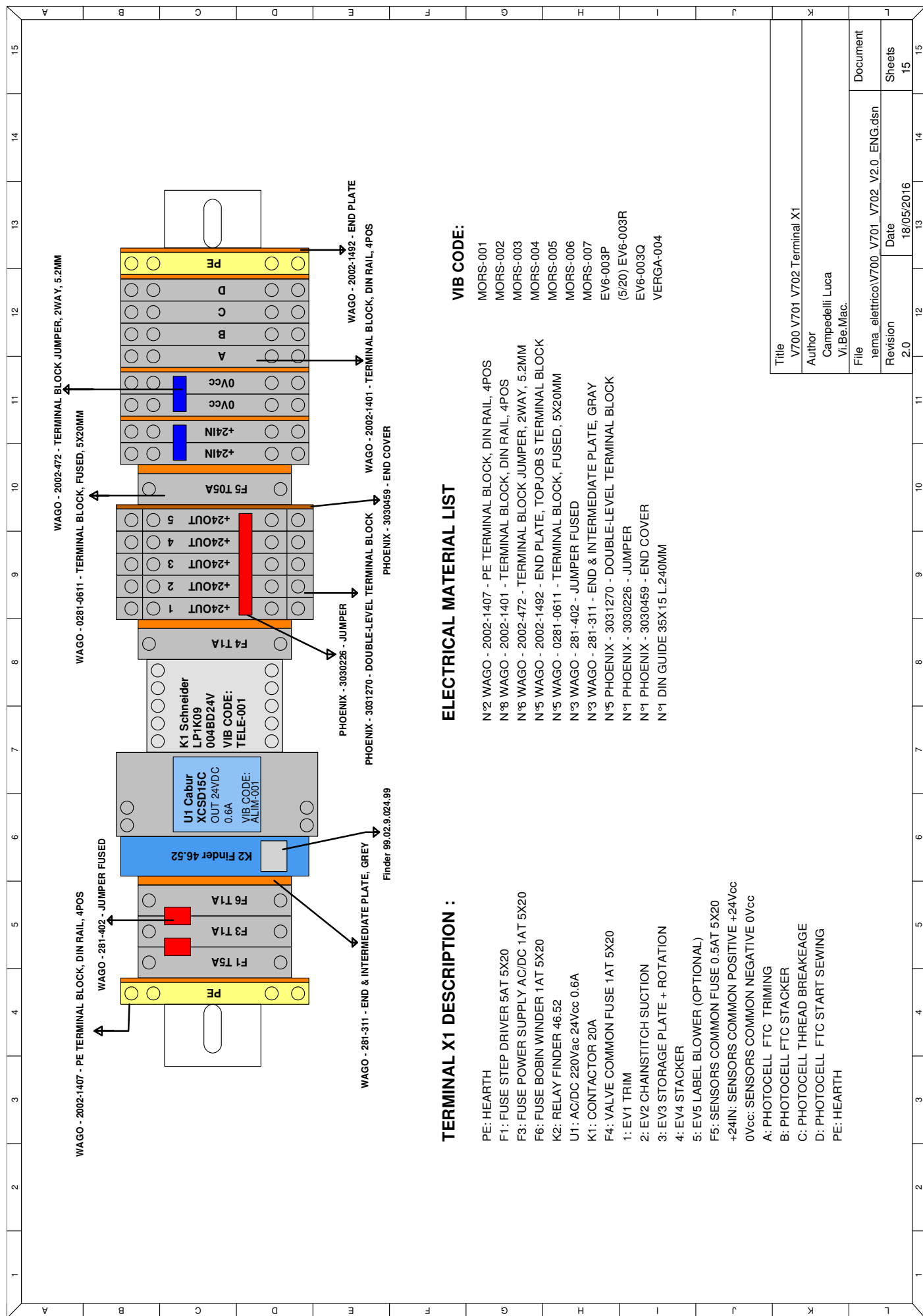
TERMINAL X2
POSITIONED ON THE SEWING HEAD

TO MAIN CONTROL BOX
Check Sheets No.5

3x0.5mm
TO MAIN CONTROL BOX



Title	V702 Terminal X2
Author	Campedelli Luca
File	nema_elettrico\V700_V701_V702_V2.0_ENG.dsn
Revision	2.0
Date	18/05/2016
Document	Document
Sheets	13

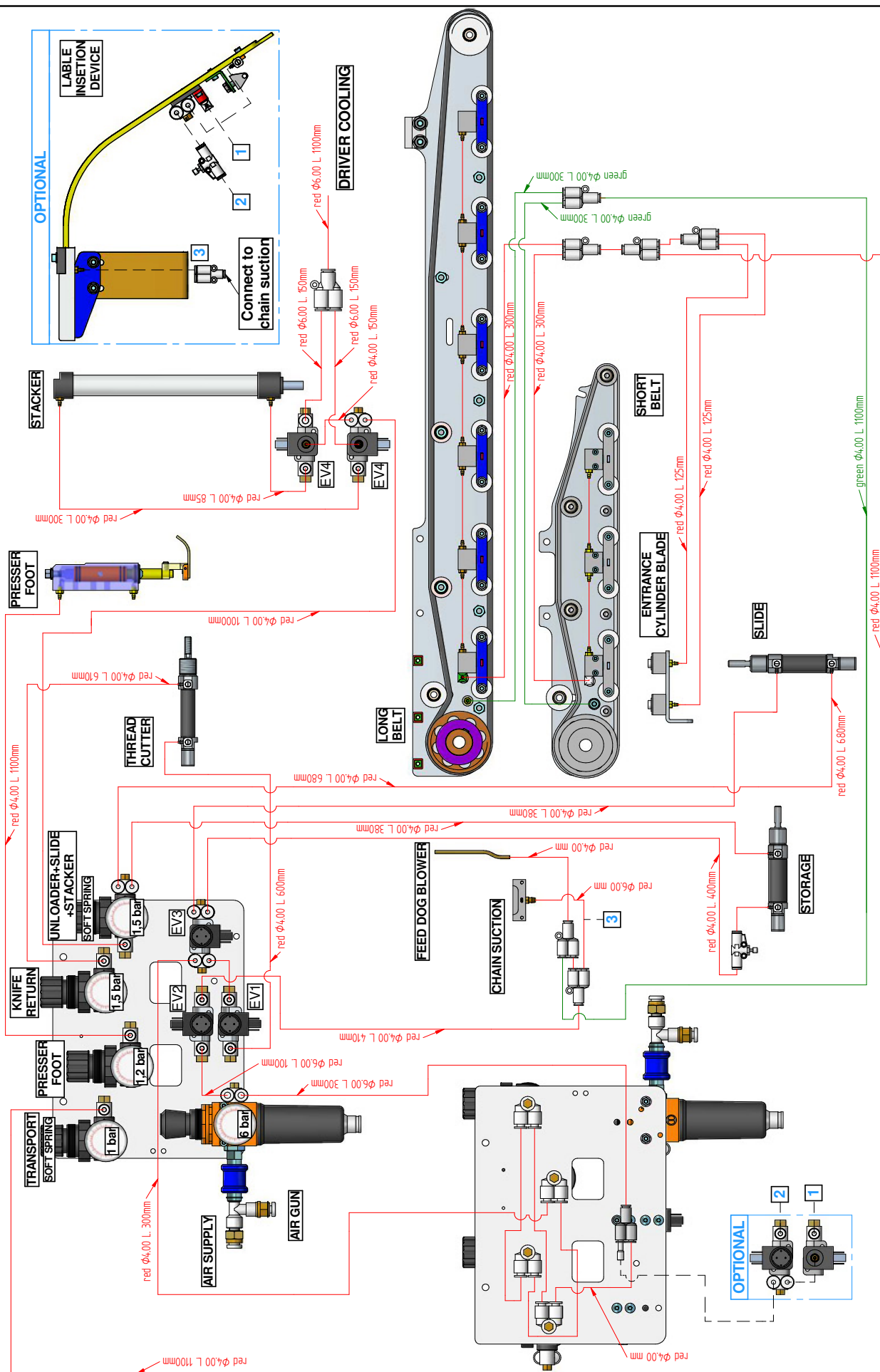


27. PNEUMATIC DIAGRAM

V700-701-702_IMP

COD. COMPONENTE:

VI.BE.MAC.
men and Technology





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